

FORM PTO-1390
(REV 3/2001)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

DATE: February 28, 2002

EXPRESS MAIL LABEL NO.
EL717377798US

ATTORNEY DOCKET NO.
47911/DBP

U.S. APPLICATION NO.
10/070210

INTERNATIONAL APPLICATION NO
PCT/DE00/03060

INTERNATIONAL FILING DATE
August 30, 2000

PRIORITY DATE CLAIMED
August 30, 1999

TITLE OF INVENTION

METHOD AND DEVICE FOR AUTOMATIC REPRODUCTION OF ELECTRONIC DATA SETS

APPLICANT(S) FOR DO/EO/US

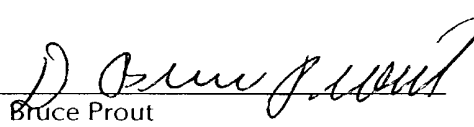
**MAYER, Pavel; TRAMBEREND, Henrik; DAHLKE, Stefan; MESCHKAT, Steffen; PAULISCH, Patrick; and
ARTOPE, Alexander**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b ☒ has been transmitted by the International Bureau.
 - c ☐ is not required, as the application was filed in the United States Receiving Office (RO/LUS).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ A copy of the International Search Report (PCT/ISA/210).
8. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b ☐ have been transmitted by the International Bureau
 - c ☐ have not been made, however, the time limit for making such amendments has NOT expired
 - d ☐ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3))
10. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). (MISSING THE FIRST INVENTORS SIGNATURE)
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409)
12. ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 13 to 20 below concern document(s) or other information included:

13. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included
15. ☒ A **FIRST** preliminary amendment..
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment..
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☒ **SMALL ENTITY** Assertion: Applicant(s) and any other associated with it/them under 37 CFR § 1.27(a) are a small entity.
20. ☒ Certificate of Mailing by Express Mail.
21. ☒ Other items or information: A.) Incorporation of Annexes to IPER and Int. Appln. B.) Extra Set of Drawings

U.S. APPLICATION NO. (If known, see 37 CFR 1.5) N/A 10/070210		INTERNATIONAL APPLICATION NO PCT/DE00/03060		ATTORNEY DOCKET NO 47911/DBP	
21. The following fees are submitted: <input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO: \$1,040.00 <input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO: \$890.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO: \$740.00 <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4): \$710.00 <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4): \$100.00 <div style="text-align: right;">ENTER APPROPRIATE BASIC FEE AMOUNT =</div>				CALCULATIONS PTO USE ONLY	
Surcharge of \$130 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$ 130	
Claims	Number Filed	Number Extra	Rate		
Total Claims	36+2 -20=	18	X \$18	\$ 324	
Independent Claims	2 -3=	0	X \$84	\$	
Multiple dependent claim(s) (if applicable)			+ \$280	\$ 280	
TOTAL OF ABOVE CALCULATIONS =				\$ 1,624	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).				\$ 812	
SUBTOTAL =				\$ 812	
Processing fee of \$130 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$ 812	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				\$	
TOTAL FEES ENCLOSED =				\$ 812	
Note (1): The basic national fee must be paid when filing this application. The 20-month time limit (37 CFR § 1.494) and 30-month time limit (37 CFR § 1.495) are not extendable.				Amount to be:	
				refunded	\$
				charged	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ 812.00 to cover the above fees is enclosed b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 03-1728 . A duplicate copy of this sheet is enclosed.					
NOTE (2): Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO D. Bruce Prout CHRISTIE, PARKER & HALE P.O. Box 7068 Pasadena, CA 91109-7068 CUSTOMER NUMBER: 23363					
				By  D. Bruce Prout Reg. No. 20,958	

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

EXPRESS MAIL NO. EL717377798US

Applicant : Pavel Mayer, et al.
Application No. : N/A
Filed : February 28, 2002
Title : METHOD AND DEVICE FOR AUTOMATIC REPRODUCTION
OF ELECTRONIC DATA SETS

Docket No. : 47911/DBP/M521

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Post Office Box 7068
Pasadena, CA 91109-7068
February 28, 2002

Commissioner:

Please amend the above-identified application as follows:

IN THE SPECIFICATION

After the title please add the following:

-- CROSS-REFERENCE TO RELATED APPLICATION

This application claims priority of International application number PCT/DE00/03060, filed August 30, 2000, which in turn claims priority of German application number 199 42 647.3, filed August 30, 1999--.

IN THE CLAIMS

By this Amendment, Applicants are amending claims 4-5, 7-18, 22-23, and 25-36. Pending claims 1 to 36 follow.

1. Method for automatic reproduction of at least one electronic basic data set (11, 11', 11"), whereby

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a) a basic data set (11, 11', 11'') ascertainable on the basis of a data address (13) is transmitted from an external first data storage (1, 3000, 4000, 5000, 6000) into a local storage of a subscriber terminal (20),

b) control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) of a control data set (12) assigned to the basic data set (11, 11', 11'') are automatically transmitted from an external second data storage (2, 1000) into the local storage of the subscriber terminal (20), whereby the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) contain commands and/or information with which a reproduction of the basic data set (11, 11', 11'') can be automatically controlled,

c) during and/or after transmission of the basic data set (11, 11', 11'') and the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) to the subscriber terminal (20), the basic data set (11, 11', 11'') is reproduced on at least one output means (23) of the subscriber terminal (20), whereby

d) the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) automatically control the reproduction of the basic data set (11, 11', 11'') in a predefinable manner,

characterized in that

the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) has commands for the automatic control of a cursor and/or at least one cursor function on a screen of the subscriber terminal (20).

2. Method according to claim 1, **characterized in** that the control of a cursor and/or at least one cursor function occurs during the reproduction of the basic data set (11, 11', 11'') and/or of the control data set (12).

3. Method according to claim 1 or 2, **characterized in** that the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) of the control data set (12) are temporally separated or transmitted as a unified control data set (12) to the subscriber terminal (20).

4. (Amended) Method according to claim 1, **characterized in** that the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12) automatically prompt, during or after the reproduction of a first basic data set (11, 11', 11''), the transmission and/or the reproduction of at least one second basic data set (11', 11'').

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5. (Amended) Method according to claim 1, **characterized in** that the control data set (12) has a sequence of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) with which at least two basic data sets (11, 11', 11") are transmitted in temporal coordination to the subscriber terminal (20) and/or reproduced by the subscriber terminal (20).
6. Method according to claim 5, **characterized in** that after the end of the sequence a predefinable data set (9201) is automatically reproduced.
7. (Amended) Method according to claim 1, **characterized in** that the control data set (12) has at least one predefined data address (13) for at least one basic data set (11, 11', 11").
8. (Amended) Method according to claim 1, **characterized in** that at least one basic data set (11, 11', 11") is transmitted to the subscriber terminal (20) before the transmission of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12).
9. (Amended) Method according to claim 1, **characterized in** that at least one basic data set (11, 11', 11") is temporarily stored in a data network (9999) and/or a computer before the reproduction on the subscriber terminal (20).
10. (Amended) Method according to claim 1, **characterized in** that the external first data storage (1, 3000, 4000, 5000, 6000) and/or the external second data storage (2, 1000) are disposed on computers that are linked with the subscriber terminal (20) via a data network (9999) and/or a data line.
11. (Amended) Method according to claim 1, **characterized in** that the basic data set (11, 11', 11") has at least one interactive document with hyperlinks and/or input fields.
12. (Amended) Method according to claim 1, **characterized in** that the control data set (12) has audiovisual data, in particular texts, images, audio data and/or video data, which are automatically reproduced during the reproduction of the basic data set (11, 11', 11").

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13. (Amended) Method according to claim 1, **characterized in** that the control data set (12) has audiovisual media data, in particular for on-line narration concerning basic data sets (11, 11', 11").
14. (Amended) Method according to claim 1, **characterized in** that at least one start timing mark of the control data set (12) serves to specify the start of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12).
15. (Amended) Method according to claim 1, **characterized in** that the control data set (12) has at least one synchronizing timing mark, with which the temporal sequence of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) is automatically controlled in a predefinable manner.
16. (Amended) Method according to claim 1, **characterized in** that the synchronization (22, 22') of the reproduction of the basic data set (11, 11', 11") and/or the control data set (12) takes place via the clock pulse of an oscillator of the subscriber terminal (20).
17. (Amended) Method according to claim 1, **characterized in** that control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) have an instruction with which the automatic reproduction of the image data set (11) and/or of the control data set (12) and/or the control of the cursor and/or of the cursor function is interrupted for a predefinable time interval.
18. (Amended) Method according to claim 1, **characterized in** that before the transmission of the basic data set (11, 11', 11") to the subscriber terminal (20), the data address (13) are transmitted from an external third data storage (3) to the subscriber terminal (20).
19. Device for the automatic reproduction of at least one electronic basic data set (11, 11', 11"), with
- a) a first transmission means for the transmission of the basic data set (11, 11', 11") from an external first data storage (1, 3000, 4000, 5000, 6000) into a local storage of a subscriber

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terminal (20), whereby the basic data set (11, 11', 11'') is identified by means of a predefinable data address (13),

b) a second transmission means for the automatic transmission of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) of a control data set (12) assigned to the basic data set (11, 11', 11'') from an external second data storage (2, 1000) of the subscriber terminal (20), whereby the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) include commands and/or information with which the reproduction of the basic data set (11, 11', 11'') is automatically controlled,

c) and output means (23) for the automatic reproduction of the basic data set (11, 11', 11'') depending on the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230),

characterized by

an eighth processing means for the control data set (12) and/or the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) for the automatic control of a cursor and/or at least one cursor function on the screen of the subscriber terminal (20).

20. Device according to claim 19, **characterized in** that the control of the cursor and/or of the cursor function occurs during the reproduction of the data sets (11, 11', 11'', 12).

21. Device according to claim 19 or 20, **characterized by** a first processing means with which the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) are transmitted temporally separated or as a unified control data set (12) to the subscriber terminal (20).

22. (Amended) Device according to claim 19, **characterized by** a second processing means with which, during or after the reproduction of a first basic data set (11, 11', 11''), the transmission and/or the reproduction of at least one second basic data set (11', 11'') is triggered, based on the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12).

23. (Amended) Device according to claim 19, **characterized by** a third processing means for the control data set (12) with a sequence of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) with which at least two basic data sets (11, 11', 11'') is transmitted to the subscriber terminal (20) and/or reproduced thereby via the output means (23).

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24. Device according to claim 23, **characterized in** that by means of the third processing means a predefinable data set (9201) is automatically reproduced after the end of the sequence.

25. (Amended) Device according to claim 19, **characterized by** a fourth processing means for a control data set (12) with at least one permanently defined data address (13) of at least one basic data set (11, 11', 11").

26. (Amended) Device according to claim 19, **characterized by** a third transmission means for the transmission of at least one basic data set (11, 11', 11") before the transmission of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data (12) to the subscriber terminal (20).

27. (Amended) Device according to claim 19, **characterized by** a storage means, with which at least one basic data set (11, 11', 11") is temporarily stored in a data network (9999) and/or a computer before reproduction on the subscriber terminal (20).

28. (Amended) Device according to claim 19, **characterized by** connection means, in particular a data network (9999) or a data line, for connection of the local storage of the subscriber terminal (20) to the external first data storage (1, 3000, 4000, 5000, 6000) and/or the external second data storage (2, 1000).

29. (Amended) Device according to claim 19, **characterized by** a processing means for the basic data set (11, 11', 11"), which has at least one interactive document with hyperlinks and/or input fields.

30. (Amended) Device according to claim 19, **characterized by** a fifth processing means for the automatic reproduction of the control data set (12) with audiovisual data, in particular texts, images, audio data and/or video data during the reproduction of the basic data set (11, 11', 11").

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31. (Amended) Device according to claim 19, **characterized by** a sixth processing means for the control data set (12) for the processing of audiovisual media data, in particular for the online narration of basic data sets (11, 11', 11").

32. (Amended) Device according to claim 19, **characterized by** a seventh processing means for the evaluation of a start timing mark of the control data set (12) for the automatic start of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12).

33. (Amended) Device according to claim 19, **characterized by** a synchronization means (22, 22') with which the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) by means of at least one synchronizing timing mark in the control data set (12) occurs in a predefinable manner in synchronization with each other.

34. (Amended) Device according to claim 19, **characterized by** a synchronization means (22, 22') for the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) based on the clock pulse of an oscillator of the subscriber terminal (20).

35. (Amended) Device according to claim 19, **characterized by** a ninth processing means for control data (1200, 1201, 1202, 1203, 1210, 1220, 1230), with which an instruction is executed to automatically interrupt the automatic reproduction of the image data set (11) and/or the control data set (12) and/or the control of cursor and/or the cursor function for a predefinable time interval.

36. (Amended) Device according to claim 19, **characterized by** an eighth transmission means for the transmission of a data address (13) to the subscriber terminal (20).

REMARKS

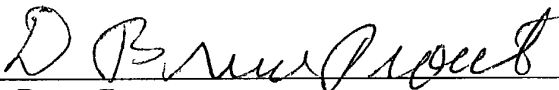
Claims 1-36 remain in the application. Claims 4-5, 7-18, 22-23, and 25-36 have been amended. It is respectfully requested that the foregoing preliminary amendment be entered prior to examination.

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Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By 

D. Bruce Prout

Reg. No. 20,958

626/795-9900

DBP/aam

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

4. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12) automatically prompt, during or after the reproduction of a first basic data set (11, 11', 11''), the transmission and/or the reproduction of at least one second basic data set (11', 11'').
5. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the control data set (12) has a sequence of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) with which at least two basic data sets (11, 11', 11'') are transmitted in temporal coordination to the subscriber terminal (20) and/or reproduced by the subscriber terminal (20).
7. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the control data set (12) has at least one predefined data address (13) for at least one basic data set (11, 11', 11'').
8. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that at least one basic data set (11, 11', 11'') is transmitted to the subscriber terminal (20) before the transmission of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12).
9. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that at least one basic data set (11, 11', 11'') is temporarily stored in a data network (9999) and/or a computer before the reproduction on the subscriber terminal (20).
10. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the external first data storage (1, 3000, 4000, 5000, 6000) and/or the external second data storage (2, 1000) are disposed on computers that are linked with the subscriber terminal (20) via a data network (9999) and/or a data line.
11. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the basic data set (11, 11', 11'') has at least one interactive document with hyperlinks and/or input fields.

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12. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the control data set (12) has audiovisual data, in particular texts, images, audio data and/or video data, which are automatically reproduced during the reproduction of the basic data set (11, 11', 11").

13. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the control data set (12) has audiovisual media data, in particular for on-line narration concerning basic data sets (11, 11', 11").

14. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that at least one start timing mark of the control data set (12) serves to specify the start of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12).

15. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that the control data set (12) has at least one synchronizing timing mark, with which the temporal sequence of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) is automatically controlled in a predefinable manner.

16. (Amended) Method according to ~~[at least one of the preceding claims 1 through 13]~~ claim 1, **characterized in** that the synchronization (22, 22') of the reproduction of the basic data set (11, 11', 11") and/or the control data set (12) takes place via the clock pulse of an oscillator of the subscriber terminal (20).

17. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) have an instruction with which the automatic reproduction of the image data set (11) and/or of the control data set (12) and/or the control of the cursor and/or of the cursor function is interrupted for a predefinable time interval.

18. (Amended) Method according to ~~[at least one of the preceding claims]~~ claim 1, **characterized in** that before the transmission of the basic data set (11, 11', 11") to the subscriber terminal (20), the data address (13) are transmitted from an external third data storage (3) to the subscriber terminal (20).

22. (Amended) Device according to ~~[at least one of claims 19 through 21]~~ claim 19, **characterized by** a second processing means with which, during or after the reproduction of a

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first basic data set (11, 11', 11"), the transmission and/or the reproduction of at least one second basic data set (11', 11") is triggered, based on the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12).

23. (Amended) Device according to ~~[at least one of claims 19 through 22]~~ claim 19, **characterized by** a third processing means for the control data set (12) with a sequence of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) with which at least two basic data sets (11, 11', 11") is transmitted to the subscriber terminal (20) and/or reproduced thereby via the output means (23).

25. (Amended) Device according to ~~[at least one of claims 19 through 24]~~ claim 19, **characterized by** a fourth processing means for a control data set (12) with at least one permanently defined data address (13) of at least one basic data set (11, 11', 11").

26. (Amended) Device according to ~~[at least one of claims 19 through 25]~~ claim 19, **characterized by** a third transmission means for the transmission of at least one basic data set (11, 11', 11") before the transmission of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data (12) to the subscriber terminal (20).

27. (Amended) Device according to ~~[at least one of claims 19 through 26]~~ claim 19, **characterized by** a storage means, with which at least one basic data set (11, 11', 11") is temporarily stored in a data network (9999) and/or a computer before reproduction on the subscriber terminal (20).

28. (Amended) Device according to ~~[at least one of claims 19 through 27]~~ claim 19, **characterized by** connection means, in particular a data network (9999) or a data line, for connection of the local storage of the subscriber terminal (20) to the external first data storage (1, 3000, 4000, 5000, 6000) and/or the external second data storage (2, 1000).

29. (Amended) Device according to ~~[at least one of claims 19 through 28]~~ claim 19, **characterized by** a processing means for the basic data set (11, 11', 11"), which has at least one interactive document with hyperlinks and/or input fields.

30. (Amended) Device according to ~~[at least one of claims 19 through 29]~~ claim 19, **characterized by** a fifth processing means for the automatic reproduction of the control data set

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(12) with audiovisual data, in particular texts, images, audio data and/or video data during the reproduction of the basic data set (11, 11', 11").

31. (Amended) Device according to ~~[at least one of claims 19 through 30]~~ claim 19, **characterized by** a sixth processing means for the control data set (12) for the processing of audiovisual media data, in particular for the online narration of basic data sets (11, 11', 11").

32. (Amended) Device according to ~~[at least one of claims 19 through 31]~~ claim 19, **characterized by** a seventh processing means for the evaluation of a start timing mark of the control data set (12) for the automatic start of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12).

33. (Amended) Device according to ~~[at least one of claims 19 through 32]~~ claim 19, **characterized by** a synchronization means (22, 22') with which the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) by means of at least one synchronizing timing mark in the control data set (12) occurs in a predefinable manner in synchronization with each other.

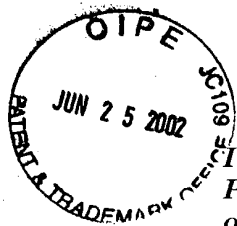
34. (Amended) Device according to ~~[at least one of claims 19 through 33]~~ claim 19, **characterized by** a synchronization means (22, 22') for the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) based on the clock pulse of an oscillator of the subscriber terminal (20).

35. (Amended) Device according to ~~[at least one of claims 19 through 34]~~ claim 19, **characterized by** a ninth processing means for control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) , with which an instruction is executed to automatically interrupt the automatic reproduction of the image data set (11) and/or the control data set (12) and/or the control of cursor and/or the cursor function for a predefinable time interval.

36. (Amended) Device according to ~~[at least one of claims 19 through 35]~~ claim 19, **characterized by** an eighth transmission means for the transmission of a data address (13) to the subscriber terminal (20).

Rec'd PCT/PTO 25 JUN 2002

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to Commissioner of Patents and Trademarks, Washington, D.C. 20231 on June 18, 2002.

Clara Magallón
Clara Magallón

Applicant : Pavel Mayer, et al.
Application No. : 10/070,210
Filed : February 28, 2002
Title : METHOD AND DEVICE FOR
AUTOMATIC REPRODUCTION OF
ELECTRONIC DATA SETS
Grp./Div. : To be assigned
Examiner : To be assigned
Docket No. : 47911/RRT/M521

SUPPLEMENTAL PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Post Office Box 7068
Pasadena, CA 91109-7068
June 18, 2002

Commissioner:

Before examination please amend the above-identified application as follows:

IN THE CLAIMS

Please amend claims 1-36, and add new claims 37-42 as follows:

1. (Amended) A method for automatic reproduction of at least one electronic basic data set comprising: a) transmitting a basic data

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set ascertainable on the basis of a data address from an external first data storage into a local storage of a subscriber terminal;

b) automatically transmitting control data of a control data set assigned to the basic data set from an external second data storage into the local storage of the subscriber terminal, whereby the control data contain commands and information with which a reproduction of the basic data set can be automatically controlled;

c) reproducing the basic data set on at least one output of the subscriber terminal during one or more of after, and during transmission of the basic data set and the control data to the subscriber terminal; and

d) automatically controlling the reproduction of the basic data set in a predefinable manner by the control data,

wherein the control data has commands for the automatic control of at least one cursor function on a screen of the subscriber terminal.

2. (Amended) A method according to claim 1, wherein the control of at least one cursor function occurs during the reproduction of one or more of the basic data set and the control data set.

3. (Amended) A method according to claim 1 or 2, wherein the control data of the control data set are temporally separated or transmitted as a unified control data set to the subscriber terminal.

4. (Twice Amended) A method according to claim 1, wherein the control data and the control data set automatically prompt, during or after the reproduction of a first basic data set, the transmission or the reproduction of at least one second basic data set.

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5. (Twice Amended) A method according to claim 1, wherein the control data set has a sequence of control data with which at least two basic data sets are transmitted in temporal coordination to the subscriber terminal or reproduced by the subscriber terminal.

6. (Amended) A method according to claim 5, further comprising reproducing a predefined data set after the end of the sequence.

7. (Twice Amended) A method according to claim 1, wherein the control data set has at least one predefined data address for at least one basic data set.

8. (Twice Amended) A method according to claim 1, wherein at least one basic data set is transmitted to the subscriber terminal before the transmission of at least one of the control data and the control data set.

9. (Twice Amended) A method according to claim 1, wherein at least one basic data is temporarily stored in at least one of a data network and a computer before the reproduction on the subscriber terminal.

10. (Twice Amended) A method according to claim 1, wherein at least one of the external first data storage and the external second data storage are disposed on computers that are linked with the subscriber terminal via a data network and/or a data line.

11. (Twice Amended) A method according to claim 1, wherein the basic data set has at least one interactive document with at least one of hyperlinks and input fields.

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12. (Twice Amended) A method according to claim 1, wherein the control data set has audiovisual data, including one or more of texts, images, audio data and video data, which are automatically reproduced during the reproduction of the basic data set.

13. (Twice Amended) A method according to claim 1, wherein the control data set has audiovisual media data for on-line narration concerning basic data sets.

14. (Twice Amended) A method according to claim 1, wherein at least one start timing mark of the control data set specifies the start of the reproduction of at least one of the basic data set and the control data set.

15. (Twice Amended) A method according to claim 1, wherein the control data set has at least one synchronizing timing mark, with which the temporal sequence of the reproduction of at least one of the basic data set and the control data set is automatically controlled in a predefinable manner.

16. (Twice Amended) A method according to claim 1, wherein the synchronization of the reproduction of at least one of the basic data set and the control data set takes place via the clock pulse of an oscillator of the subscriber terminal.

17. (Twice Amended) A method according to claim 1, wherein control data have an instruction with which the automatic reproduction of at least one of the image data set and the control data set and the

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control of the cursor function is interrupted for a predefinable time interval.

18. (Twice Amended) A method according to claim 1, further comprising transmitting the data address from an external third data storage to the subscriber terminal before the transmission of the basic data set to the subscriber terminal.

19. (Amended) A device for automatic reproduction of at least one electronic basic data set comprising:

a) a first transmission means for the transmission of the basic data set from an external first data storage into a local storage of a subscriber terminal wherein the basic data set is identified by a predefinable data address;

b) a second transmission means for the automatic transmission of control data of a control data set assigned to the basic data set from an external second data storage of the subscriber terminal, wherein the control data include at least one of commands and information with which the reproduction of the basic data set is automatically controlled;

c) output means for the automatic reproduction of the basic data set depending on the control data; and

an eighth processing means for the control data set and/or the control data for the automatic control of at least one cursor function on a screen of the subscriber terminal.

20. (Amended) A device according to claim 19, wherein the control of the cursor function occurs during the reproduction of the data sets.

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21. (Amended) A device according to claim 19 or 20, further comprising a first processing means for transmitting the control data temporally separated or as a unified control data set to the subscriber terminal.

22. (Twice Amended) A device according to claim 19, further comprising a second processing means with which, during or after the reproduction of a first basic data set, at least one of the transmission and the reproduction of at least one second basic data set is triggered, based on at least one of the control data and the control data set.

23. (Twice Amended) A device according to claim 19, further comprising a third processing means for the control data set with a sequence of control data with which at least two basic data sets is transmitted to the subscriber terminal or reproduced thereby via the output means.

24. (Amended) A device according to claim 23, wherein the third processing means automatically reproduces a predefinable data set after the end of the sequence.

25. (Twice Amended) A device according to claim 19, further comprising a fourth processing means for a control data set with at least one permanently defined data address of at least one basic data set.

26. (Twice Amended) A device according to claim 19, further comprising a third transmission means for transmitting at least one

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basic data set before the transmission of at least one of the control data to the subscriber terminal.

27. (Twice Amended) A device according to claim 19, further comprising a storage means, with which at least one basic data set is temporarily stored in at least one of a data network and a computer before reproduction on the subscriber terminal.

28. (Twice Amended) A device according to claim 19, further comprising connection means for coupling the local storage of the subscriber terminal to at least one of the external first data storage and the external second data storage.

29. (Twice Amended) A device according to claim 19, further comprising a processing means for the basic data set, which has at least one interactive document with at least one of hyperlinks and input fields.

30. (Twice Amended) A device according to claim 19, further comprising a fifth processing means for automatic reproduction of the control data set with audiovisual data, including one or more of texts, images, audio data and video data during the reproduction of the basic data set.

31. (Twice Amended) A device according to claim 19, further comprising a sixth processing means for the control data set for processing of audiovisual media data, including the online narration of basic data sets.

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32. (Twice Amended) A device according to claim 19, further comprising a seventh processing means for evaluating a start timing mark of the control data set for the automatic start of the reproduction of at least one of the basic data set and the control data set.

33. (Twice Amended) A device according to claim 19, further comprising a synchronization means with which the reproduction of the basic data set and/or of the control data set by means of at least one synchronizing timing mark in the control data set occurs in a predefinable manner in synchronization with each other.

34. (Twice Amended) A device according to claim 19, further comprising a synchronization means for reproducing at least one of the basic data set and the control data set based on the clock pulse of an oscillator of the subscriber terminal.

35. (Twice Amended) A device according to claim 19, further comprising a ninth processing means for control data, with which an instruction is executed to automatically interrupt the automatic reproduction of at least one of the image data set and the control data set and the control of the cursor function for a predefinable time interval.

36. (Twice Amended) A device according to claim 19, further comprising an eighth transmission means for transmitting a data address to the subscriber terminal.

37. (New) A system for automatic reproduction of an electronic basic data set comprising:

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a first transmitter for transmitting the basic data set from an external first data storage into a local storage of a subscriber terminal, wherein the basic data set is identified by a predefinable data address;

a second transmitter for transmitting control data of a control data set assigned to the basic data set from an external second data storage of the subscriber terminal, wherein the control data include commands and information with which reproduction of the basic data set is controlled;

an output port for the automatic reproduction of the basic data set depending on the control data; and

an eighth processor module for control of at least one cursor function on a screen of the subscriber terminal.

38. (New) A system according to claim 37, wherein the control of the cursor function occurs during the reproduction of the data sets.

39. (New) A system according to claim 37, further comprising a first processor module for transmitting the control data in one or more of the forms temporally separated, and as a unified control data set to the subscriber terminal.

40. (New) A system according to claim 37, further comprising a second processor module with which, during or after the reproduction of a first basic data set, the transmission and the reproduction of at least one second basic data set is triggered based on the control data or the control data set.

41. (New) A system according to claim 37, further comprising a third processor module for the control data set with a sequence of

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control data with which at least two basic data sets is transmitted to the subscriber terminal via the output port.

42. (New) A system according to claim 41, wherein the third processor module reproduces a predefinable data set after the end of the sequence of control data.

REMARKS

Claims 1-36, as amended remain in the application. New claims 37-42 have been added. Claims 1-42 are pending in the application.

It is respectfully requested that the foregoing preliminary amendment be entered prior to examination.

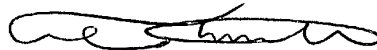
Due to the number of amendments to the specification, Applicant has enclosed a Substitute Specification and a Compare version of the specification highlighting these corrections. No new matter has been added in the amended specification. Applicant requests that the Substitute Specification be entered in this case.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By



Raymond R. Tabandeh
Reg. No. 43,945
626/795-9900

RRT/cam

Application No. 10/070,210

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) Method A method for automatic reproduction of at least one electronic basic data set ~~(11, 11', 11'')~~, ~~whereby comprising:~~

a) transmitting a basic data set ~~(11, 11', 11'')~~ ascertainable on the basis of a data address ~~(13)~~ ~~is transmitted~~ from an external first data storage ~~(1, 3000, 4000, 5000, 6000)~~ into a local storage of a subscriber terminal ~~(20)~~,i

b) automatically transmitting control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ of a control data set ~~(12)~~ assigned to the basic data set ~~(11, 11', 11'')~~ ~~are automatically transmitted~~ from an external second data storage ~~(2, 1000)~~ into the local storage of the subscriber terminal ~~(20)~~, whereby the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ contain commands and/or and information with which a reproduction of the basic data set ~~(11, 11', 11'')~~ can be automatically controlled,i

c) reproducing the basic data set on at least one output of the subscriber terminal during and/or one or more of after, and during transmission of the basic data set ~~(11, 11', 11'')~~ and the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ to the subscriber terminal ~~(20)~~, ~~the basic data set (11, 11', 11'') is reproduced on at least one output means (23) of the subscriber terminal (20), whereby ; and~~

d) ~~the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ automatically ~~control~~ controlling the reproduction of the basic data set ~~(11, 11', 11'')~~ in a predefinable manner by the control data,
~~characterized in that~~

wherein the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ has commands for the automatic control of a ~~cursor~~ and/or at least one cursor function on a screen of the subscriber terminal ~~(20)~~.

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2. (Amended) Method A method according to claim 1, ~~characterized in that wherein~~ the control of a cursor ~~and/or~~ at least one cursor function occurs during the reproduction of one or more of the basic data set ~~(11, 11', 11'')~~ ~~and/or of~~ and the control data set (12).

3. (Amended) Method A method according to claim 1 or 2, ~~characterized in that wherein~~ the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ of the control data set (12) are temporally separated or transmitted as a unified control data set (12) to the subscriber terminal (20).

4. (Twice Amended) Method A method according to claim 1, ~~characterized in that wherein~~ the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ ~~and/or~~ and the control data set (12) automatically prompt, during or after the reproduction of a first basic data set ~~(11, 11', 11'')~~, the transmission ~~and/or~~ or the reproduction of at least one second basic data set ~~(11', 11'')~~.

5. (Twice Amended) Method A method according to claim 1, ~~characterized in that wherein~~ the control data set (12) has a sequence of control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ with which at least two basic data sets ~~(11, 11', 11'')~~ are transmitted in temporal coordination to the subscriber terminal (20) ~~and/or~~ or reproduced by the subscriber terminal (20).

6. (Amended) Method A method according to claim 5, ~~characterized in that~~ further comprising reproducing a predefined data

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set after the end of the sequence a ~~predefinable data set (9201)~~ is automatically reproduced.

7. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein the control data set (12) has at least one predefined data address (13) for at least one basic data set (11, 11', 11").

8. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein at least one basic data set (11, 11', 11") is transmitted to the subscriber terminal (20) before the transmission of at least one of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or and the control data set (12).

9. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein at least one basic data set (11, 11', 11") is temporarily stored in at least one of a data network (9999) and/or and a computer before the reproduction on the subscriber terminal (20).

10. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein at least one of the external first data storage (1, 3000, 4000, 5000, 6000) and/or and the external second data storage (2, 1000) are disposed on computers that are linked with the subscriber terminal (20) via a data network (9999) and/or a data line.

11. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein the basic data set (11, 11', 11") has

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at least one interactive document with at least one of hyperlinks and/or and input fields.

12. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein the control data set (12) has audiovisual data, ~~in particular~~ including one or more of texts, images, audio data and/or and video data, which are automatically reproduced during the reproduction of the basic data set (11, 11', 11").

13. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein the control data set (12) has audiovisual media data, ~~in particular~~ for on-line narration concerning basic data sets (11, 11', 11").

14. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein at least one start timing mark of the control data set (12) ~~serves to specify~~ specifies the start of the reproduction of at least one of the basic data set (11, 11', 11") and/or ~~of~~ and the control data set (12).

15. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein the control data set (12) has at least one synchronizing timing mark, with which the temporal sequence of the reproduction of at least one of the basic data set (11, 11', 11") and/or ~~of~~ and the control data set (12) is automatically controlled in a predefinable manner.

16. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein the synchronization (22, 22') of the

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reproduction of at least one of the basic data set ~~(11, 11', 11'')~~ and/or and the control data set ~~(12)~~ takes place via the clock pulse of an oscillator of the subscriber terminal ~~(20)~~.

17. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ wherein control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ have an instruction with which the automatic reproduction of at least one of the image data set ~~(11)~~ and/or ~~of~~ and the control data set ~~(12)~~ and/or and the control of the cursor ~~and/or~~ of the cursor function is interrupted for a predefinable time interval.

18. (Twice Amended) Method A method according to claim 1, ~~characterized in that~~ further comprising transmitting the data address from an external third data storage to the subscriber terminal before the transmission of the basic data set (11, 11', 11'') to the subscriber terminal (20), the data address (13) are transmitted from an external third data storage (3) to the subscriber terminal (20).

19. (Amended) Device A device for the automatic reproduction of at least one electronic basic data set ~~(11, 11', 11'')~~, with comprising:

a) a first transmission means for the transmission of the basic data set ~~(11, 11', 11'')~~ from an external first data storage ~~(1, 3000, 4000, 5000, 6000)~~ into a local storage of a subscriber terminal ~~(20)~~, whereby wherein the basic data set ~~(11, 11', 11'')~~ is identified by means ~~of~~ a predefinable data address ~~(13)~~,;

b) a second transmission means for the automatic transmission of control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ of a control data set ~~(12)~~ assigned to the basic data set ~~(11, 11', 11'')~~ from an

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external second data storage ~~(2, 1000)~~ of the subscriber terminal ~~(20)~~, whereby wherein the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ include at least one of commands and/or and information with which the reproduction of the basic data set ~~(11, 11', 11'')~~ is automatically controlled;

c) and output means ~~(23)~~ for the automatic reproduction of the basic data set ~~(11, 11', 11'')~~ depending on the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~,; and

~~characterized by~~

an eighth processing means for the control data set ~~(12)~~ and/or the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ for the automatic control of a ~~cursor~~ and/or at least one cursor function on the a screen of the subscriber terminal ~~(20)~~.

20. (Amended) Device A device according to claim 19, ~~characterized in that~~ wherein the control of the ~~cursor~~ and/or of the cursor function occurs during the reproduction of the data sets ~~(11, 11', 11'', 12)~~.

21. (Amended) Device A device according to claim 19 or 20, ~~characterized by~~ further comprising a first processing means with which for transmitting the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ are ~~transmitted~~ temporally separated or as a unified control data set ~~(12)~~ to the subscriber terminal ~~(20)~~.

22. (Twice Amended) Device A device according to claim 19, ~~characterized by~~ further comprising a second processing means with which, during or after the reproduction of a first basic data set ~~(11, 11', 11'')~~, at least one of the transmission and/or and the reproduction of at least one second basic data set ~~(11', 11'')~~ is

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triggered, based on at least one of the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ and/or and the control data set (12).

23. (Twice Amended) Device A device according to claim 19, characterized by further comprising a third processing means for the control data set (12) with a sequence of control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ with which at least two basic data sets ~~(11, 11', 11'')~~ is transmitted to the subscriber terminal (20) and/or or reproduced thereby via the output means (23).

24. (Amended) Device A device according to claim 23, characterized in that by means of wherein the third processing means automatically reproduces a predefinable data set ~~(9201)~~ is ~~automatically reproduced~~ after the end of the sequence.

25. (Twice Amended) Device A device according to claim 19, characterized by further comprising a fourth processing means for a control data set (12) with at least one permanently defined data address (13) of at least one basic data set ~~(11, 11', 11'')~~.

26. (Twice Amended) Device A device according to claim 19, characterized by further comprising a third transmission means for the ~~transmission of~~ transmitting at least one basic data set ~~(11, 11', 11'')~~ before the transmission of the control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~ and/or ~~the control data (12)~~ to the subscriber terminal (20).

27. (Twice Amended) Device A device according to claim 19, characterized by further comprising a storage means, with which at least one basic data set ~~(11, 11', 11'')~~ is temporarily stored in at

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least one of a data network ~~(9999)~~ and/or and a computer before reproduction on the subscriber terminal ~~(20)~~.

28. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ connection means, ~~in particular a data network (9999) or a data line, for connection of~~ coupling the local storage of the subscriber terminal ~~(20)~~ to at least one of the external first data storage ~~(1, 3000, 4000, 5000, 6000)~~ and/or and the external second data storage ~~(2, 1000)~~.

29. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a processing means for the basic data set ~~(11, 11', 11'')~~, which has at least one interactive document with at least one of hyperlinks and/or and input fields.

30. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a fifth processing means for the automatic reproduction of the control data set ~~(12)~~ with audiovisual data, ~~in particular~~ including one or more of texts, images, audio data and/or and video data during the reproduction of the basic data set ~~(11, 11', 11'')~~.

31. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a sixth processing means for the control data set ~~(12)~~ for the processing of audiovisual media data, ~~in particular for~~ including the online narration of basic data sets ~~(11, 11', 11'')~~.

32. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a seventh processing means for the

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~~evaluation of~~ evaluating a start timing mark of the control data set ~~(12)~~ for the automatic start of the reproduction of at least one of the basic data set ~~(11, 11', 11'')~~ and/or ~~of~~ and the control data set ~~(12)~~.

33. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a synchronization means ~~(22, 22')~~ with which the reproduction of the basic data set ~~(11, 11', 11'')~~ and/or of the control data set ~~(12)~~ by means of at least one synchronizing timing mark in the control data set ~~(12)~~ occurs in a predefinable manner in synchronization with each other.

34. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a synchronization means ~~(22, 22')~~ for the ~~reproduction of~~ reproducing at least one of the basic data set ~~(11, 11', 11'')~~ and/or ~~of~~ and the control data set ~~(12)~~ based on the clock pulse of an oscillator of the subscriber terminal ~~(20)~~.

35. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ a ninth processing means for control data ~~(1200, 1201, 1202, 1203, 1210, 1220, 1230)~~, with which an instruction is executed to automatically interrupt the automatic reproduction of at least one of the image data set ~~(11)~~ and/or and the control data set ~~(12)~~ and/or and the control of cursor ~~and/or~~ the cursor function for a predefinable time interval.

36. (Twice Amended) Device A device according to claim 19, ~~characterized by further comprising~~ an eighth transmission means for the ~~transmission of~~ transmitting a data address ~~(13)~~ to the subscriber terminal ~~(20)~~.



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10/070210

COMPARE VERSION

1 47911/RRT/M52

5 ~~{(12) INTERNATIONAL PATENT APPLICATION PUBLISHED IN ACCORDANCE}~~
METHOD AND DEVICE FOR AUTOMATIC REPRODUCTION OF ELECTRONIC DATA
SETS

~~{PATENT COOPERATION TREATY (PCT)}~~ CROSS-REFERENCE TO RELATED
APPLICATION(S)

10 This application claims priority of International
application number PCT/DE00/03060, filed August 30, 2000, which
in turn claims priority of German application number 199 42
647.3, filed August 30, 1999.

FIELD OF THE INVENTION

15 This invention relates to data processing, in particular the
invention relates to a method and device for automatic
reproduction of electronic data sets.

BACKGROUND OF THE INVENTION

20 ~~{B (19) World Intellectual Property Organization~~
~~B International Office~~

~~B~~

~~B(43) International Publication Date~~

~~B March 8, 2001 (03/08/2001) WIPO~~

25 ~~B~~

~~B~~

~~B~~

~~B PCT-~~

~~B~~

30 ~~B~~

~~B(10) International Publication Number~~

~~B WO 01/16791 A2 B (51) IPC7: G06F 17/21~~

~~B~~

~~B(21) International File No.: PCT/DE00/03060~~

35 ~~B~~

COMPARE VERSION

1 47911/RRT/M521

~~ß(22) International Application Date:~~

~~ß August 30, 2000 (08/30/2000)~~

5 ~~ß~~

~~ß(25) Filing Language: German~~

~~ß~~

~~ß(26) Publication Language: German~~

~~ß~~

10 ~~ß(30) Priority Data:~~

~~ß 199 42 647.3 August 30, 1999 (08/30/1999) DE (71) Applicant~~

~~(for all designated countries except~~

~~ß the U.S.): DATANGO AG [DE/DE];~~

~~ß Strassburger Strasse 58, 10405 Berlin (DE).~~

15 ~~ß~~

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~~ß [Continued on the next page]][(54) Title: METHOD AND DEVICE~~

30 ~~FOR AUTOMATIC REPRODUCTION OF ELECTRONIC DATA SETS~~

~~(57) Abstract: The invention relates to a method and device for
automatic reproduction of at least one electronic basic data set,~~

~~whereby an [sic] basic data set ascertainable on the basis of a~~

35 ~~data address is transmitted from a data storage into a local~~

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storage of a subscriber terminal. Control data of a control data
set assigned to the basic data set is automatically transmitted
5 from a second external data storage to the local storage of the
subscriber terminal, whereby the control data contains commands
and/or information serving to automatically control reproduction
of the basic data set, whereby the basic data set is reproduced
on at least one output means of the subscriber terminal during
10 and/or after transmission of the basic data set and the control
data to the subscriber terminal, whereby the control data
automatically controls reproduction of the basic data set in a
predetermined manner.}] [ß (74) Attorney: MAIKOWSKI & NINNEMANN,
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ß
25 ßFor explanation of the two-letter codes and the other
abbreviations, reference is made to the explanations ("Guidance
Notes on Codes and Abbreviations") at the beginning of each
regular issue of the PCT-Gazette.] [Method and Device for
Automatic Reproduction of Electronic Data Sets

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Description

The invention relates to a method for automatic reproduction of
electronic data sets according to claim 1 and a device for

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~~automatic reproduction of electronic data sets according to claim 19.~~

5 †Data processing, in particular text processing, has been common for many years. The data sets to be processed and displayed (e.g., texte, program, multimedia data) have become increasingly complex.

10 Since the beginning of the 1990s, complex interactive documents have been increasingly processed on computers. A typical example of this is an interactive ~~{www}~~ World Wide Web (WWW) page that represents a multimedia data set.

15 The expression "multimedia data set" is understood in this context to mean that image data, text data, video data, hyperlinks and/or data are displayable together or in any combinations in a document on a screen. With the hyperlinks of a WWW page, a user can select other WWW pages. Thus, interactive documents of greater complexity can be created since extremely varied data sets can be linked to each other through the
20 hyperlinks. Such WWW pages are increasingly offered, for example, as order forms for goods and services, such as department stores or banks. A user must enter a large number of data in the fields provided.

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25 †A disadvantage in this is that a user, during a first use of such an interactive document, is frequently not capable of fully utilizing the informational content of the interactive WWW page because of the numerous links or the complex input structures. Or the user fills out an online form incorrectly since he does
30 not know the function of a relevant field. In any case, he has to follow hyperlinks interactively or make entries, whereby he cannot be sure that he is finding the fastest or the best path to the information sought.

35 SUMMARY OF THE INVENTION

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5 In one embodiment, ~~{The object of}~~ the present invention ~~{is to provide}~~ provides a method and a device with which at least
at times an automatic reproduction of an electronic data set is
possible independent of the user. ~~A {This object is accomplished~~
~~by means of the method according to the invention in that a}~~
control data set is assigned to a basic data set to be
reproduced. †
10 †The basic data set can have any form (e.g., WWW page) as long
as it can be reproduced on an output device in a manner
perceptible to by a user. †
†The control data set contains control data whose commands and/or
information serve to automatically control the reproduction of
15 the basic data set. †
†The basic data set and the control commands are transmitted
independently of each other from external data storages to a
local data storage of a subscriber terminal, e.g., a PC, and
processed there.

20 †
 —3—

 †With the method according to the ~~{invention}~~ above embodiment,
the basic data set ascertainable using a data address is
transmitted from an external first data storage into a local
25 storage of a subscriber terminal.

 The control data of the control data set assigned to the
basic data set are transmitted from an external second data
storage into the local storage of the subscriber terminal.

30 During and/or after the transmission of the basic data set
and of the control data to the subscriber terminal, the basic
data set is reproduced on at least one output means, e.g., a
multimedia screen. The control data are used to automatically
control the reproduction of the basic data set in a predefinable
manner.

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5 By means of the basic data sets and the control data that are uncoupled from each other but assigned to each other, these data sets can come from different sources, a situation which increases the flexibility of the reproduction of the data for a user. The basic data set ~~{must}~~ may not be changed for reproduction by the separate data sets; the control data are simply applied to and for the reproduction of the basic data set.

10 In an ~~{advantageous}~~ embodiment of the method according to the invention, the control data of the control data set are separated temporally or are transmitted as a unified control data set to the subscriber terminal. In the case of a temporally separate transmission, fewer data have to be transmitted per time
15 unit, which is useful particularly with heavily used data networks. The block transmission of the control data, i.e., of the entire control data set at once, has the advantage that the connection to the external second data storage can be broken after the transmission.

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~~In a particularly advantageous~~ In one embodiment of ~~{the method according to}~~ the invention, the control data and/or the control data set automatically enable the transmission and/or the
25 reproduction of at least one second basic data set during or after the reproduction of a first basic data set. This enables stringing of different basic data sets that can be associated with each other particularly in terms of content (in an application in the World Wide Web: "web tour").

30 Here, it is advantageous if the control data set has a sequence of control data with which at least two basic data sets can be transmitted, in temporal coordination, to the subscriber terminal and/or reproduced by the subscriber terminal. Thus, even reproductions of complex structures are possible. A second basic
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data set can even be loaded while a first one is being reproduced.

5 When a reproduction of a basic data set has ended, it is particularly advantageous if, after the end of the sequence, a predefinable data set is automatically reproduced. The user is thus returned to a specific starting point, where he can, for example, start a new web tour.

10 In an additional ~~{advantageous}~~ embodiment of ~~{the method according to}~~ the invention, the control data set has at least one permanently defined data address for at least one basic data set.

15 It is advantageous in the event of a momentarily free capacity in a data network if at least one basic data set is transmitted before the transmission of the control data and/or of the control data set to the subscriber terminal. ~~{[Note: I think the "Es" at the beginning of this paragraph was left over after the sentence was rewritten.]}~~

20

~~--5--}~~

If a data network is at times overloaded, it is advantageous if at least one basic data set is temporarily stored in a data network and/or a computer before reproduction on the subscriber terminal.

25 ~~{Advantageously, the}~~ The external first data storage and/or the external second data storage are disposed on computers that are connected with the subscriber terminal via a data network and/or a data line. Thus, the user of a terminal can use data sets from a large number of independent sources together on his subscriber terminal.

30

~~{Advantageously, the}~~ The basic data set has at least one interactive document with hyperlinks and/or input fields. Thus it is, for example, possible that an Internet surfer is guided

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automatically by his browser on a narrated and automatically guided tour through a complex interactive document.

5 In another ~~{advantageous}~~ embodiment of ~~{the method according to}~~ the invention, the control data set (and with it the control data) has audiovisual data, in particular texts, images, audio data and/or video data. These data of the control data set are automatically reproduced during the reproduction of

10 the basic data set.

It is particularly advantageous if a data set has audiovisual media data, in particular for online narration of basic data sets. Thus, for example, audiovisual explanations may be provided for a user while the control data set automatically

15 controls the reproduction of the basic data set. The basic data set and control data set are simultaneously reproduced in this case.

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20 ~~Advantageously, in}~~ In one embodiment of ~~{the method according to}~~ the invention, at least one start timing mark of the control data set serves to stipulate the beginning of the reproduction of the basic data set and/or of the control data set. It is thus possible, for example, after a complete transmission, to

25 immediately enable a reproduction.

The control data set also ~~{advantageously has}~~ includes at least one synchronizing timing mark which is used to synchronize the reproduction of the basic data set on an output device. Thus, complex structures of a basic data set and a control data set can

30 be reproduced in synchronization with each other.

~~{In a particularly simple and efficient manner, synchronization}~~ Synchronization of the reproduction of the basic data set and/or of the control data set is ~~{[sic ?possible]} when this takes place}~~ performed via the clock pulse of an oscillator

35 of the subscriber terminal. Modern subscriber terminals, such as

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PCs or workstations, are ~~{so}~~ sufficiently fast that fluctuations in the processing quantity of control data for basic data sets
5 are hardly noticed.

In an ~~{advantageous}~~ embodiment of ~~{the method according to}~~ the invention, the control data set has control data for automatic control of a cursor and/or at least one cursor function on a screen of the subscriber terminal during the reproduction
10 of the basic data set and/or of the control data set. Thus, for example, hyperlinks could be selected automatically by the control data set.

In ~~{a particularly advantageous}~~ one embodiment ~~{of the method according to the invention}~~, control data have an instruction with which the automatic reproduction of the image data set and/or of the control data set and/or the control of the cursor and/or of the cursor function is interrupted automatically for a predefinable time interval. Thus, a user of the system can,
20 during the time

~~{-7-}~~

~~{interval}~~, use the subscriber terminal without control by the control data, for example, with a teaching program to be able to perform his own experiments.

25 ~~{In an advantageous improvement of the method according to the invention, the}~~ The data address of an external third data storage can be transmitted to the subscriber terminal before the transmission of the basic data set to the subscriber terminal.

A device according to one embodiment of the invention to
30 automatically reproduce at least one electronic basic data set ~~{has}~~ includes transmission means to transmit a basic data set and control data of a control data set from an external first data storage or an external second data storage to a subscriber terminal. The function of these data sets has been described
35 above.

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Through an output means for automatic reproduction of the basic data set depending on control data, it is possible for the basic data set to be reproduced independently of a user intervention in a predefinable manner.

~~{Advantageously, at}~~ A first processing means is used such that the control data are transmitted temporally separated or as a unified control data set to the subscriber terminal. Thus, the data transmission can be adapted to the load on the data network.

~~{A particularly advantageous}~~ An embodiment of the device according to the invention has a second processing means with which it is possible to automatically trigger the transmission and/or the reproduction of at least one second basic data set, during or after the reproduction of a first basic data set based on the control data and/or the control data set. This enables efficiently reproducing a succession of basic data sets.

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~~{Here, it is {particularly} advantageous}~~ if a third processing means for the control data set has a sequence of data with which at least two basic data sets can be transmitted to the subscriber terminal in temporal coordination and/or are reproducible therefrom via the output means. Thus, temporally offset reproductions and/or transmissions are possible.

In order to automatically return a user to a specific page after termination of a reproduction, a predefinable data set can be ~~{advantageously}~~ reproduced automatically after the end of the sequence by means of the third processing means.

In an additional ~~{advantageous}~~ embodiment, a fourth processing means is used to process a control data set with at least one permanently predefined data address of at least one basic data set.

It is also advantageous if the transmission of at least one basic data set via a third transmission means is possible before the transmission of the control data and/or of the control data

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set to the subscriber terminal, since free bandwidth is thus usable in a data network.

5 If a data network lacks bandwidth, ~~{it is advantageous if}~~ a storage means ~~{is}~~ may be used with which at least one basic data set can be temporarily stored in a data network and/or a computer before reproduction on the subscriber terminal.

10 ~~{Advantageously, the}~~ The local storage of the subscriber terminal is ~~{[sic ?linked]}~~ in communication, via a connection means, with a data network or a data line with the external first data storage and/or the external ~~{~~

15 ~~--9--}~~ second data storage. Thus, a user can access different data sources.

An ~~{advantageous}~~ embodiment of ~~{the device according to}~~ the invention has a processing means for a basic data set that has at least one interactive document with hyperlinks and/or input fields. Thus, for example, complex WWW pages and/or input forms can be reproduced automatically with the device according to the invention.

25 Another ~~{advantageous device has}~~ embodiment of the invention includes a fifth processing means for automatic reproduction of a control data set with audiovisual data, in particular texts, images, audio data and/or video data during the reproduction of the basic data set. Thus, in addition to the basic data set, data of the control data set can also be reproduced.

30 Here, ~~{it is particularly advantageous if}~~ a sixth processing means ~~{is}~~ may be present for the control data set of the processing of audiovisual media data, in particular for online narration of basic data sets.

35 An ~~{advantageous}~~ embodiment of ~~{the device according to}~~ the invention has a seventh processing means for the evaluation of a start timing mark of the control data set to automatically

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start the reproduction of the basic data set and/or of the control data set. Thus, the start of the reproduction can be specified in a predefinable manner.

5 ~~{A particularly advantageous}~~ Another embodiment of the ~~{device according to the}~~ invention ~~{has}~~ includes a synchronization means with which the reproduction of the basic data set and/or of the control data set takes place in
10 synchronization by means of at least one synchronizing timing mark ~~+~~

~~10~~ ~~+~~ in the control data set in a predefinable manner. Thus, even complex data structures with different media can be reproduced in synchronization with each other.

15 With the synchronization means it is possible to reproduce the basic data set and the control data set that are loaded independently of each other into the subscriber terminal in a coordinated manner without the basic data set itself having to be altered.

20 A particularly efficient device results if the synchronization means for reproduction of the basic data set and/or the control data set operates based on the clock pulse of an oscillator of the subscriber terminal. Thus, special timing
25 marks in the data sets are superfluous.

~~{Advantageously, the}~~ The control data set ~~{has}~~ may include an eighth processing means for the control data set and/or the control data for automatic control of a cursor and/or at least
30 one cursor function on the screen of the subscriber terminal during the reproduction of the data sets.

An ~~{advantageous implementation}~~ embodiment of ~~{the device according to}~~ the invention has a ninth processing means for control data with which is possible to execute an instruction
35 which automatically interrupts the reproduction of the image data

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set and/or of the control data set and/or the control of the
cursor and/or of the cursor function for a predefinable time
5 interval. Thus, a user of the subscriber terminal can work on the
subscriber terminal during the time interval without interference
from control data.

~~{-11-}~~

10 ~~{Additional {advantageous} embodiments have a fourth transmission~~
means for the transmission of a data address to the subscriber
terminal and/or a second transmission means for the transmission
of a start timing mark to the subscriber terminal.

15 ~~{The invention is explained in detail in the following with~~
~~reference to the figures using several exemplary embodiments.~~
~~They depict:}~~ BRIEF DESCRIPTION OF THE DRAWINGS

~~{Fig. 1}~~ The objects, advantages and features of this
invention will become more apparent from a consideration of the
following detailed description and the drawings in which:

20 Fig. 1 is a schematic overview of the data transmission
paths in ~~{the}~~ a method according to one embodiment of the
invention;

25 Fig. 2 is a data flow chart of one embodiment of ~~{the}~~
a method according to one embodiment of the invention;

Fig. 3 is a UML interaction diagram (UML: unified
modeling language) of a plurality of process steps of ~~{the}~~ a
30 method according to one embodiment of the invention;

Fig. 4 is a UML action diagram for ~~{the}~~ a method
according to one embodiment of the invention; and

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Fig. 5 is a schematic view of a screen during
implementation of the method according to one embodiment of the
5 invention.

DETAILED DESCRIPTION

Fig. 1 depicts a typical device and network configuration
that is used by ~~the method according to~~ one embodiment of the
10 invention.

A user of the method according to one embodiment of the
invention uses for this a subscriber terminal 20, e.g., a PC or
workstation. The subscriber terminal is connected via the
Internet 9999 or another data network with a control device 1000
15 and various document servers 3000, 4000, 5000, 6000. Although,
here, the control device 1000 and document servers 3000, 4000,
5000, 6000 are depicted as f

~~12~~ separate units, it is also possible to implement the
20 method according to the invention with only one computer
connected to the subscriber terminal 20.

Data sets 1210, 1220 are exchanged between the subscriber
terminal 20 and the control device 1000 via the Internet 9999,
as symbolized by the arrows.

25 Control data 1210 are used to control specific functions of
the subscriber terminal 20. An informational data set 1220
contains audiovisual comments, such as video data, which can be
used to narrate a data reproduction on the subscriber terminal
20. Together, the data sets 1210, 1220 form a control data set
30 12, the function of which is explained in detail in Fig. 2
through 5.

However, data are also exchanged between the subscriber
terminal 20 and the document servers 3000, 4000, 5000, 6000.
Thus, requests 2310 are sent from the subscriber terminal 20 to
35 the document servers 3000, 4000, 5000, 6000, whereby the requests

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come from the control data set 12. In response to this request
2310, basic data sets 11 are transmitted from the document
5 servers 3000, 4000, 5000, 6000 to the subscriber terminal. Basic
data sets 11 may, in principle, all be data which are
reproducible by the subscriber terminal 20.

In the following, the function of the method according to
the invention is described largely with reference to a so-called
10 web tour, whereby various WWW pages are reproduced one after
another in a predefinable manner on the subscriber terminal 20
as basic data sets 11. The control data of the control data set
12 controls ~~[[sic]]~~ this reproduction.

~~Fig. 13~~

15 Fig. 2 depicts schematically an exemplary embodiment of the
method according to the invention. Here, the merging of a basic
data set 11 with data of a control data set 12 on a subscriber
terminal 20 is depicted.

The example depicted here has four process steps of one
20 embodiment of the method according to the invention that are
executed one after another.

The bold-outlined rectangles 1, 2, 3 of the first three
process steps represent data storage devices. These data storage
devices are disposed on the control device 1000 or on the
25 document storage devices 3000, 4000, 5000, 6000.

The parallelograms 12, 13 and the symbol for the basic data
set 11 represent data sets that are transmitted between the data
storage devices 1, 2, 3. The transmission direction of the data
is symbolized by the dotted arrows.

30 The process according to the invention concerns in
particular data transmissions between the control device 1000
(not shown), the subscriber terminal 20, and the document servers
3000, 4000, 5000, 6000 (see Fig. 1).

Here, the method according to the invention (Steps 2 and 3
35 in Fig. 2) is described with reference to a first data storage

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1 that is disposed on a document server 3000. The first data storage 1 contains a WWW page as a basic data set.

5 Here, it is also, in principle, possible that the first data storage 1 and the second data storage 2 are physically disposed on one and the same external computer.

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10 †In the present example, a first step occurs before these process steps 2 and 3, i.e., a transmission of a data address 13 from an external third data storage 3 to the subscriber terminal 20.

15 The external third data storage 3 is disposed on the control device 1000 (not shown), which is connected via a data network with the subscriber terminal 20. The subscriber terminal 20 is a PC with its customary peripheral devices. In particular, the subscriber terminal 20 has local storage means, in which data can be stored independent of data on external computers. In principle, the third data storage 3 can be physically disposed along with the first data storage 1 and/or the second data storage 2 on an external computer.

20 The data address 13 is a name for a data set which makes it uniquely identifiable. In the present example, a URL (uniform resource locator) is used as the data address 13, because, with it, a specific WWW page is precisely specified as a basic data set 11.

25 In an alternative embodiment of the method, a start timing mark, which is needed in the last process step, is transmitted along with the data address 13.

30 In the second process step, the subscriber terminal 20 prompts a data transmission of the control data set specified by the data address 13 via the data network 9999 from the second data storage 2 into the local storage of the subscriber terminal 20. The data address 13 of the basic data set 11, which is either contained in the control data set 12 or was already transmitted

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in the prior first process step, is now used to retrieve the basic data set 11 from the first data storage 1. In any {

5

~~15~~ case, there is a unique assignment of the control data set 12 to the basic data set 11. Thus, for example, the subscriber terminal 20 can recognize that the data address 13 of the basic data set 11 belongs to a specific control data set 12.

10

The control data set 12 contains different control data and/or information that serve to display the basic data set 11 in a predefinable manner via an output means 23, for example, on a multimedia screen.

15

Here, the basic data set 11 is an interactive document (WWW page) provided with hyperlinks, that also has graphic elements, windows to play MPEG videos and text. However, in principle, it is also possible that the basic data set 11 is a simple text file.

20

In a known manner, a user uses an interactive document, such as a WWW page, by activating various hyperlinks or function areas in the document using the cursor and triggers a specific function with a keystroke (e.g., request another WWW page, start an MPEG video).

25

Within the framework of the method according to the invention, it is completely possible, but not essential, that the first data storage 1 for the basic data set 11 and the external third data storage 3 for the data address 13 are stored on the same computer. In the World Wide Web certain data sets are temporarily stored in cache storage of various computers. In the present case, the URL is interpreted as a data address 13 of the basic data set 11 of the subscriber terminal 20 so that, next, the corresponding basic data set 11 can be transmitted to the subscriber terminal 20.

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‡In the third process step, the control data set 12 is also loaded from the second data storage 2 into the local storage of the subscriber terminal 20. Parallel to that, the basic data set 11 is transmitted from the first data storage 1 to the subscriber terminal 20. As mentioned above, the basic data set 11 in this case is an interactive WWW document.

10 In an alternative embodiment, it is possible that the control data set 12 is first transmitted to the subscriber terminal 20, and the basic data set 11 is not loaded until after that or vice versa. However, in the present example, the transmission occurs in parallel in the third process step.

15 Since, through the unique identification of the basic data set 11, a control data set 12 is automatically assigned thereto, the transmission of the data set can take place on logically or physically separated lines.

20 The fourth process step serves according to the invention to enable a predefinable automatic reproduction of the basic data set 11, i.e., here, the interactive WWW page, by means of the control data set 12. With an interactive document, that includes the fact that functions of this document are automatically triggered by the control data set 12.

25 The user can observe within the framework of a web tour how, for example, the control data set 12 moves the cursor on a screen or cursor functions are executed. The control data set 12 also has a video data set, which runs, for example, during the automatic cursor movement. The video can, for example, show a person who explains which functions certain fields in the interactive document have or where specific hyperlinks lead. This is explained in detail in Fig. 5.

~~‡17~~

35 ‡By means of the control data set 12 and the automatic reproduction (with function executions) of the basic data set 11, it is possible to give automatic guidance (i.e., a web tour)

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through a complex interactive document which may consist of
thousands of connected individual pages. This is explained in
5 detail in Fig. 5.

The control data set 12 has synchronization timing marks
that are used to ensure coordinated operation during the
automatic reproduction. Thus, for example, the running of an
10 explanatory MPEG video of the control data set 12 is linked to
specific cursor actions that can be performed in parallel with
the text displayed by the video. Thus, the observer has the
impression of being guided with the help of the video through the
interactive document of the basic data set 11. This
15 synchronization is performed in the synchronization means 22 and
then transmitted to the output means 23.

The synchronization timing marks of the control data set 12
are, consequently, of special significance since the control data
set 12 combines different output media (e.g., video, cursor
20 movement, and sound), whose reproduction must in each case be
coordinated. Thus, it is within the nature of the invention that
for a predefinable time interval the user can again use the
interactive document himself. With the use of training programs,
this can be quite useful.

25 Through the separation of the basic data set 11 and the
control data set 12, it is possible to undertake an automatic
reproduction of the basic data set 11 without making any changes
whatsoever therein. The data sets may originate from completely
different sources as long as it is defined through them that a
30 control data set 12 belongs to a specific basic data set 11,
which is then reproduced after transmission to the subscriber
terminal 20.

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†In the present case, a hyperlink "automatic guidance through the
35 WWW page" is used to transmit a control data set 12 assigned to

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the basic data set 11 from the second data storage 2 to the subscriber terminal 20.

5

Alternatively, a synchronization 22, 22' of control data set 11 ~~[[sic]]~~ (control data and/or information) and data of the basic data set 11 can occur solely through the clock pulse of an oscillator of the subscriber terminal 20. Modern subscriber
10 terminals 20 have such high-performance that interruptions in the data transmission are hardly perceptible to a user of a Web tour.

The reproduction takes place here on an audiovisual screen on which the images, videos with sound, and cursor movements can be displayed and acoustically reproduced. The screen is thus an
15 output means 23 for the reproduction of the data.

It is clear from the above that a device according to the invention has software and/or hardware means with which a coordinated reproduction of basic data sets 11, 11', 11" is enabled via control data 1200, 1201, 1202, 1203 or a control data
20 set 12. For this, the device according to the invention needs transmission means for the basic data sets 11, 11', 11", transmission and processing means for the control data set 12, the control data 1200, 1201, 1202, 1203, 1210, 1220, 1230, the data address 13, and an output means 23 for the reproduction of
25 the basic data sets 11, 11', 11". The synchronization means 22, 22' can also be designed as a software or a hardware solution.

Fig. 2 ~~[[showed]]~~ shows the steps that are necessary to load a basic data set 11 on the subscriber terminal 20 by means of the control data set 12 and to reproduce it in a coordinated manner.

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~~[-19-]~~

However, a web tour usually consists not only of reproduction of one basic data set 11. Rather, it is precisely the advantage that extremely varied basic data sets 11, 11', 11" from different document servers 3000, 4000, 5000, 6000 can be reproduced
35 associated by content on a subscriber terminal 20.

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Such a web tour is depicted in Fig. 3 as a UML interaction diagram (UML: unified modeling language). Horizontally, various
5 computers are symbolically depicted: the control device 1000, the subscriber terminal 20, and three document servers 3000, 4000, 5000.

Vertically depicted is the temporal sequence, i.e., the
10 start of the interaction to be depicted between the computers is at the top.

The individual interaction steps are depicted in Fig. 3 as arrows provided with reference characters. Solid-line arrows represent the return of messages; broken-line arrows indicate the
15 transport of messages.

At the start of the web tour depicted here by way of example, an inquiry 2100 is directed from the subscriber terminal 20 to the control device 1000. This inquiry 2100 contains the request to activate a control data set 12 stored on the control
20 device 1000, which is to control the web tour. The control data consist here of information concerning basic data sets 11, 11', 11" and from video data as a commentary on the basic data sets 11, 11', 11".

The control data set 12 sends its first control data 1200,
25 which contain the command to get a first basic data set 11 from the first document server 3000. The first control data 1200 contain the

~~†-20-~~

†URL of the first basic data set 11, such that an appropriate
30 program of the subscriber terminal 20 is capable of loading the first basic data set 11 from the first document server 3000 to the subscriber terminal 20 and reproducing it there.

The request of the first basic data set 11 is depicted as the first interaction 2300 between the subscriber terminal 20 and
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the first document server 3000. The loading of the first basic data set 11 is depicted as the second interaction 3200.

5 Temporally between the request 2300 and the loading 3200 of the first basic data set 11 is the transmission of a first commentary 1201 from the control device 1000 to the subscriber terminal 20. The first commentary 1202 is, as a video sequence, a component of the control data set 12.

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As soon as the first basic data set 11 and the first commentary 1201 are present on the subscriber terminal 20, the first basic data set 11 is reproduced on the subscriber terminal 20 (see Fig. 2, Step 4; Fig. 5). Under certain conditions, the reproduction may be started when control data and the basic data have not yet been completely transmitted to the subscriber terminal 20. The control data 1201, i.e., the commentary, are thus reproduced along with the basic data set 11.

20 After the reproduction of the first basic data set 11 has finished or a user has interrupted the reproduction, the next control data of the control data set 12, with which the web tour is continued, are transmitted.

25 The second control data 1202 contain the information concerning the request of the second basic data set 11' from the third document server 5000. The second interaction between the subscriber terminal 20 and the document servers is thus the request of the second basic data set 11' and †

30 ~~—21—~~ the transmission 5200 to the subscriber terminal 20. As before, in the interim, a second commentary 1203 of the control data set 12 is transmitted to the subscriber terminal 20, which is then reproduced along with the second basic data set 11'.

The second control data 1202 contained even more commands, namely those that, after the reproduction of the second basic data set 11', a third basic data set 11" must be gotten from the

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second document server 4000. The third interaction 2400 depicts the request whereby, next, a transmission 4200 to the subscriber terminal 20 occurs.

5 This type of data transmission can now be continued until the web tour has ended or the user has interrupted it. In this case, the control data set 12 has a command that a predefined data set 9201 is automatically reproduced on the subscriber terminal 20 (see Fig. 4). This can, for example, be a specific WWW homepage.

In the embodiment of the method according to the invention described here, the control data 1200, 1201, 1202, 1203 are successively transmitted from the control device to the subscriber terminal 20. However, in principle, the control data 1200, 1201, 1202, 1203 may also be transmitted together as a whole to the subscriber terminal 20; i.e., the control data set 12 would be transmitted as a whole. It would then be appropriately executed on the subscriber terminal 20 such that nothing would be changed during the loading of the basic data sets 11, 11', 11".

15 If it would be helpful for the efficiency of the data transmission, the basic data sets 11, 11', 11" known from the control data set 12 could already be loaded on the subscriber terminal 20 as a block before the reproduction or before the loading of the control data set 12 or its control f

20 ~~22~~ commands 1200, 1201, 1202, 1203. It is also possible to temporarily store the basic data sets 11, 11', 11" on the network 9999 or on another computer.

30 Fig. 4 depicts the procedure according to Fig. 3 in the form of a UML action diagram, whereby the areas of responsibility of the individual computers can be depicted.

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5 The UML action diagram is divided into three vertical regions. The three regions (also called swimming lanes) relate to the control device 1000, the subscriber terminal 20, and the document servers 3000, 4000, 5000, 6000. The solid-line arrows again refer to a control flow; broken-line arrows refer to a data flow. Rounded fields represent an action status, rectangular fields represent a data set. In principle, time flows in the direction of the arrows.

The filled-in circle at the top edge of the center area indicates the start of the program; the lower filled-in circle indicates the end of the program.

15 The method according to the invention begins with an action 200 on the subscriber terminal 20, where a WWW start page is displayed. This start page has a group of possible web tours that are organized thematically.

20 A user selects a web tour (action 201), whereupon the request action 202 is triggered. The upper horizontal line in Fig. 4 indicates that at this point a parallel control flow begins. The subscriber terminal 20, in fact, waits for data of the control device 1000.

~~+23-~~

25 +A connection with the control device 1000 is established to load an inquiry 2100 for the necessary information.

30 The control device 1000 is in a wait loop that is interrupted upon receipt 101 of the inquiry 2100. As a reaction to the inquiry 2100, control data 1230 are transmitted to the subscriber terminal. The control data 1230 contain an information flow 1201 (i.e., in this case, multimedia commentary) and a command flow 1200 for the loading of a basic data set 11.

The subscriber terminal 20 receives the information flow 1201 and the control flow 1200 separately at the input points 213

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and 203, respectively, since the data flows are processed differently.

5 The information flow 1201 is initially paused, which is indicated by the second horizontal line in Fig. 4.

During this pause, the basic data set 11 is loaded on the subscriber terminal 20. For this, a request action 204 is triggered, which leads to the first interaction 2300 with the first document server 3000.

10 This server is in a wait loop 901, which is interrupted as soon as the first interaction 2300 is received 902. In a send action 903, the basic data set 11 is loaded, in the second interaction 3200, on the subscriber terminal 20 and is received 15 205 there.

Now, the basic data set 11 and the multimedia commentary 1201 are both present and can be further processed.

~~{--24--}~~

20 {In a synchronizing action 22' (see, similarly, Step 4 in Fig. 2 as well), the user can now see the basic data set with the multimedia commentaries 1201 of the control data set 12.

If the user interrupts the web tour here 217, or if the web tour for this data set has ended 207, a predefined data set 9201, here a specific homepage, is requested by a return action 208 ("automatic return").

This occurs in a document request 2901, which is again addressed to the first document server 3000. The homepage ("end page") 9201 is sent to the subscriber terminal 20 and received 30 209 and display 210. Thus, the web tour using the method according to the invention is terminated.

However, as described in Fig. 3, but after the reproduction of the first basic data set 11, the reproduction of many more basic data sets 11', 11" may follow. In Fig. 4, this possibility 35 is depicted in that after the synchronization 22', no return to

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the first start of the parallel control flow occurs. The first control data 1200 contain, in fact, a command as to whether a return occurs in order to subsequently load additional control data 1202, 1203 (see Fig. 3) or whether the control data set 12 has ended and the automatic return begins.

Fig. 5 schematically depicts how the method according to the invention and the device according to the invention affects ~~the~~ the display of a WWW page 30 on a screen.

~~{-25-}~~

The WWW page 30 depicted schematically here has various areas in which the various actions can be executed by a user in the interactive mode with a cursor 34', 34".

15 If the method according to the invention is now applied, it assumes control. The WWW page 30 is transmitted as a basic data set 11 from a first data storage 1 to the local storage of a subscriber terminal 20. A control data set 12 is also transmitted from the second data storage 2 to the local storage. After the complete transmission of the data sets, at a time specified by the start timing mark, use of the WWW page 30 is automatically prompted.

Thus, on a monitor surface 31 of the WWW page 30, the image of a video appears, in which the function of the WWW page 30 is explained. Appropriately synchronized at all times with these explanations, as depicted here schematically, cursor movements 34', 34", which are commented on by the video, are executed. Through automatic triggering of cursor functions, an automatic "tour" can thus be realized through the interactive WWW page.

30 The invention is not limited in its implementation to the preferred exemplary embodiments reported above. Rather, a number of variants that make use of the device according to invention and the method according to the invention, even in fundamentally different embodiments, are conceivable.

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ABSTRACT OF THE DISCLOSURE

The invention relates to a method and device for automatic reproduction of at least one electronic basic data set, whereby a basic data set ascertainable on the basis of a data address is transmitted from a data storage into a local storage of a subscriber terminal. Control data of a control data set assigned to the basic data set is automatically transmitted from a second external data storage to the local storage of the subscriber terminal, whereby the control data contains commands and/or information serving to automatically control reproduction of the basic data set. The basic data set is reproduced on at least one output means of the subscriber terminal during and/or after transmission of the basic data set and the control data to the subscriber terminal, whereby the control data automatically controls reproduction of the basic data set in a predetermined manner.

RRT/cam

CAM PAS430338 1-*4/23/02 10 40 AM

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----- COMPARISON OF HEADERS -----

-HEADER 1-

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-HEADER 2-

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----- COMPARISON OF FOOTERS -----

-FOOTER 1-

-1-

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This redlined draft, generated by CompareRite (TM) - The Instant Redliner, shows the differences between -

original document : C:\TEMPFILE\CPHPAS_417337_1

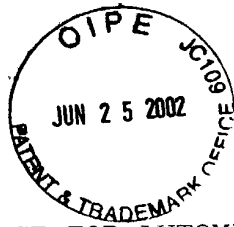
and revised document: C:\TEMPFILE\CPHPAS_429959.1

CompareRite found 108 change(s) in the text

CompareRite found 1 change(s) in the notes

Deletions appear as Strikethrough text surrounded by []

Additions appear as Underline text



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METHOD AND DEVICE FOR AUTOMATIC REPRODUCTION OF ELECTRONIC DATA
SETS

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CROSS-REFERENCE TO RELATED APPLICATION(S)

This application claims priority of International
application number PCT/DE00/03060, filed August 30, 2000, which
in turn claims priority of German application number 199 42
10 647.3, filed August 30, 1999.

FIELD OF THE INVENTION

This invention relates to data processing, in particular the
invention relates to a method and device for automatic
15 reproduction of electronic data sets.

BACKGROUND OF THE INVENTION

Data processing, in particular text processing, has been
common for many years. The data sets to be processed and
20 displayed (e.g., texte, program, multimedia data) have become
increasingly complex.

Since the beginning of the 1990s, complex interactive
documents have been increasingly processed on computers. A
typical example of this is an interactive World Wide Web (WWW)
25 page that represents a multimedia data set.

The expression "multimedia data set" is understood in this
context to mean that image data, text data, video data,
hyperlinks and/or data are displayable together or in any
combinations in a document on a screen. With the hyperlinks of
30 a WWW page, a user can select other WWW pages. Thus, interactive
documents of greater complexity can be created since extremely
varied data sets can be linked to each other through the
hyperlinks. Such WWW pages are increasingly offered, for example,
as order forms for goods and services, such as department stores

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or banks. A user must enter a large number of data in the fields provided.

5 A disadvantage in this is that a user, during a first use of such an interactive document, is frequently not capable of fully utilizing the informational content of the interactive WWW page because of the numerous links or the complex input structures. Or the user fills out an online form incorrectly
10 since he does not know the function of a relevant field. In any case, he has to follow hyperlinks interactively or make entries, whereby he cannot be sure that he is finding the fastest or the best path to the information sought.

15 SUMMARY OF THE INVENTION

In one embodiment, the present invention provides a method and a device with which at least at times an automatic reproduction of an electronic data set is possible independent of the user. A control data set is assigned to a basic data set
20 to be reproduced. The basic data set can have any form (e.g., WWW page) as long as it can be reproduced on an output device in a manner perceptible to by a user. The control data set contains control data whose commands and/or information serve to automatically control the reproduction of the basic data set.
25 The basic data set and the control commands are transmitted independently of each other from external data storages to a local data storage of a subscriber terminal, e.g., a PC, and processed there.

30 With the method according to the above embodiment, the basic data set ascertainable using a data address is transmitted from an external first data storage into a local storage of a subscriber terminal.

The control data of the control data set assigned to the basic data set are transmitted from an external second data
35 storage into the local storage of the subscriber terminal.

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During and/or after the transmission of the basic data set and of the control data to the subscriber terminal, the basic data set is reproduced on at least one output means, e.g., a multimedia screen. The control data are used to automatically control the reproduction of the basic data set in a predefinable manner.

By means of the basic data sets and the control data that are uncoupled from each other but assigned to each other, these data sets can come from different sources, a situation which increases the flexibility of the reproduction of the data for a user. The basic data set may not be changed for reproduction by the separate data sets; the control data are simply applied to and for the reproduction of the basic data set.

In an embodiment of the method according to the invention, the control data of the control data set are separated temporally or are transmitted as a unified control data set to the subscriber terminal. In the case of a temporally separate transmission, fewer data have to be transmitted per time unit, which is useful particularly with heavily used data networks. The block transmission of the control data, i.e., of the entire control data set at once, has the advantage that the connection to the external second data storage can be broken after the transmission.

In one embodiment of the invention, the control data and/or the control data set automatically enable the transmission and/or the reproduction of at least one second basic data set during or after the reproduction of a first basic data set. This enables stringing of different basic data sets that can be associated with each other particularly in terms of content (in an application in the World Wide Web: "web tour").

Here, it is advantageous if the control data set has a sequence of control data with which at least two basic data sets can be transmitted, in temporal coordination, to the subscriber

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terminal and/or reproduced by the subscriber terminal. Thus, even reproductions of complex structures are possible. A second basic
5 data set can even be loaded while a first one is being reproduced.

When a reproduction of a basic data set has ended, it is particularly advantageous if, after the end of the sequence, a predefinable data set is automatically reproduced. The user is
10 thus returned to a specific starting point, where he can, for example, start a new web tour.

In an additional embodiment of the invention, the control data set has at least one permanently defined data address for at least one basic data set.

15 It is advantageous in the event of a momentarily free capacity in a data network if at least one basic data set is transmitted before the transmission of the control data and/or of the control data set to the subscriber terminal.

If a data network is at times overloaded, it is advantageous
20 if at least one basic data set is temporarily stored in a data network and/or a computer before reproduction on the subscriber terminal.

The external first data storage and/or the external second data storage are disposed on computers that are connected with
25 the subscriber terminal via a data network and/or a data line. Thus, the user of a terminal can use data sets from a large number of independent sources together on his subscriber terminal.

The basic data set has at least one interactive document
30 with hyperlinks and/or input fields. Thus it is, for example, possible that an Internet surfer is guided automatically by his browser on a narrated and automatically guided tour through a complex interactive document.

In another embodiment of the invention, the control data set
35 (and with it the control data) has audiovisual data, in

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particular texts, images, audio data and/or video data. These data of the control data set are automatically reproduced during
5 the reproduction of the basic data set.

It is particularly advantageous if a data set has audiovisual media data, in particular for online narration of basic data sets. Thus, for example, audiovisual explanations may be provided for a user while the control data set automatically
10 controls the reproduction of the basic data set. The basic data set and control data set are simultaneously reproduced in this case.

In one embodiment of the invention, at least one start timing mark of the control data set serves to stipulate the
15 beginning of the reproduction of the basic data set and/or of the control data set. It is thus possible, for example, after a complete transmission, to immediately enable a reproduction.

The control data set also includes at least one synchronizing timing mark which is used to synchronize the
20 reproduction of the basic data set on an output device. Thus, complex structures of a basic data set and a control data set can be reproduced in synchronization with each other.

Synchronization of the reproduction of the basic data set and/or of the control data set is performed via the clock pulse
25 of an oscillator of the subscriber terminal. Modern subscriber terminals, such as PCs or workstations, are sufficiently fast that fluctuations in the processing quantity of control data for basic data sets are hardly noticed.

In an embodiment of the invention, the control data set has
30 control data for automatic control of a cursor and/or at least one cursor function on a screen of the subscriber terminal during the reproduction of the basic data set and/or of the control data set. Thus, for example, hyperlinks could be selected automatically by the control data set.

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5 In one embodiment, control data have an instruction with which the automatic reproduction of the image data set and/or of the control data set and/or the control of the cursor and/or of the cursor function is interrupted automatically for a predefinable time interval. Thus, a user of the system can, during the time interval, use the subscriber terminal without control by the control data, for example, with a teaching program to be able to perform his own experiments.

The data address of an external third data storage can be transmitted to the subscriber terminal before the transmission of the basic data set to the subscriber terminal.

15 A device according to one embodiment of the invention to automatically reproduce at least one electronic basic data set includes transmission means to transmit a basic data set and control data of a control data set from an external first data storage or an external second data storage to a subscriber terminal. The function of these data sets has been described above.

20 Through an output means for automatic reproduction of the basic data set depending on control data, it is possible for the basic data set to be reproduced independently of a user intervention in a predefinable manner.

25 A first processing means is used such that the control data are transmitted temporally separated or as a unified control data set to the subscriber terminal. Thus, the data transmission can be adapted to the load on the data network.

30 An embodiment of the device according to the invention has a second processing means with which it is possible to automatically trigger the transmission and/or the reproduction of at least one second basic data set, during or after the reproduction of a first basic data set based on the control data

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and/or the control data set. This enables efficiently reproducing a succession of basic data sets.

5 Here, it is advantageous if a third processing means for the control data set has a sequence of data with which at least two basic data sets can be transmitted to the subscriber terminal in temporal coordination and/or are reproducible therefrom via the output means. Thus, temporally offset reproductions and/or
10 transmissions are possible.

In order to automatically return a user to a specific page after termination of a reproduction, a predefinable data set can be reproduced automatically after the end of the sequence by means of the third processing means.

15 In an additional embodiment, a fourth processing means is used to process a control data set with at least one permanently predefined data address of at least one basic data set.

It is also advantageous if the transmission of at least one basic data set via a third transmission means is possible before
20 the transmission of the control data and/or of the control data set to the subscriber terminal, since free bandwidth is thus usable in a data network.

If a data network lacks bandwidth, a storage means may be used with which at least one basic data set can be temporarily
25 stored in a data network and/or a computer before reproduction on the subscriber terminal.

The local storage of the subscriber terminal is in communication, via a connection means, with a data network or a data line with the external first data storage and/or the
30 external second data storage. Thus, a user can access different data sources.

An embodiment of the invention has a processing means for a basic data set that has at least one interactive document with hyperlinks and/or input fields. Thus, for example, complex WWW
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pages and/or input forms can be reproduced automatically with the device according to the invention.

5 Another embodiment of the invention includes a fifth processing means for automatic reproduction of a control data set with audiovisual data, in particular texts, images, audio data and/or video data during the reproduction of the basic data set. Thus, in addition to the basic data set, data of the control data
10 set can also be reproduced.

Here, a sixth processing means may be present for the control data set of the processing of audiovisual media data, in particular for online narration of basic data sets.

15 An embodiment of the invention has a seventh processing means for the evaluation of a start timing mark of the control data set to automatically start the reproduction of the basic data set and/or of the control data set. Thus, the start of the reproduction can be specified in a predefinable manner.

20 Another embodiment of the invention includes a synchronization means with which the reproduction of the basic data set and/or of the control data set takes place in synchronization by means of at least one synchronizing timing mark in the control data set in a predefinable manner. Thus, even complex data structures with different media can be reproduced
25 in synchronization with each other.

30 With the synchronization means it is possible to reproduce the basic data set and the control data set that are loaded independently of each other into the subscriber terminal in a coordinated manner without the basic data set itself having to be altered.

A particularly efficient device results if the synchronization means for reproduction of the basic data set and/or the control data set operates based on the clock pulse of an oscillator of the subscriber terminal. Thus, special timing
35 marks in the data sets are superfluous.

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5 The control data set may include an eighth processing means for the control data set and/or the control data for automatic control of a cursor and/or at least one cursor function on the screen of the subscriber terminal during the reproduction of the data sets.

10 An embodiment of the invention has a ninth processing means for control data with which is possible to execute an instruction which automatically interrupts the reproduction of the image data set and/or of the control data set and/or the control of the cursor and/or of the cursor function for a predefinable time interval. Thus, a user of the subscriber terminal can work on the subscriber terminal during the time interval without interference
15 from control data.

20 Additional embodiments have a fourth transmission means for the transmission of a data address to the subscriber terminal and/or a second transmission means for the transmission of a start timing mark to the subscriber terminal.

20 BRIEF DESCRIPTION OF THE DRAWINGS

The objects, advantages and features of this invention will become more apparent from a consideration of the following detailed description and the drawings in which:

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Fig. 1 is a schematic overview of the data transmission paths in a method according to one embodiment of the invention;

30 Fig. 2 is a data flow chart of one embodiment of a method according to one embodiment of the invention;

Fig. 3 is a UML interaction diagram (UML: unified modeling language) of a plurality of process steps of a method according to one embodiment of the invention;

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Fig. 4 is a UML action diagram for a method according to one embodiment of the invention; and

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Fig. 5 is a schematic view of a screen during implementation of the method according to one embodiment of the invention.

10 DETAILED DESCRIPTION

Fig. 1 depicts a typical device and network configuration that is used by one embodiment of the invention.

A user of the method according to one embodiment of the invention uses for this a subscriber terminal 20, e.g., a PC or
15 workstation. The subscriber terminal is connected via the Internet 9999 or another data network with a control device 1000 and various document servers 3000, 4000, 5000, 6000. Although, here, the control device 1000 and document servers 3000, 4000, 5000, 6000 are depicted as separate units, it is also possible
20 to implement the method according to the invention with only one computer connected to the subscriber terminal 20.

Data sets 1210, 1220 are exchanged between the subscriber terminal 20 and the control device 1000 via the Internet 9999, as symbolized by the arrows.

25 Control data 1210 are used to control specific functions of the subscriber terminal 20. An informational data set 1220 contains audiovisual comments, such as video data, which can be used to narrate a data reproduction on the subscriber terminal 20. Together, the data sets 1210, 1220 form a control data set
30 12, the function of which is explained in detail in Fig. 2 through 5.

However, data are also exchanged between the subscriber terminal 20 and the document servers 3000, 4000, 5000, 6000. Thus, requests 2310 are sent from the subscriber terminal 20 to
35 the document servers 3000, 4000, 5000, 6000, whereby the requests

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come from the control data set 12. In response to this request 2310, basic data sets 11 are transmitted from the document
5 servers 3000, 4000, 5000, 6000 to the subscriber terminal. Basic data sets 11 may, in principle, all be data which are reproducible by the subscriber terminal 20.

In the following, the function of the method according to the invention is described largely with reference to a so-called
10 web tour, whereby various WWW pages are reproduced one after another in a predefinable manner on the subscriber terminal 20 as basic data sets 11. The control data of the control data set 12 controls this reproduction.

Fig. 2 depicts schematically an exemplary embodiment of the
15 method according to the invention. Here, the merging of a basic data set 11 with data of a control data set 12 on a subscriber terminal 20 is depicted.

The example depicted here has four process steps of one embodiment of the method according to the invention that are
20 executed one after another.

The bold-outlined rectangles 1, 2, 3 of the first three process steps represent data storage devices. These data storage devices are disposed on the control device 1000 or on the document storage devices 3000, 4000, 5000, 6000.

25 The parallelograms 12, 13 and the symbol for the basic data set 11 represent data sets that are transmitted between the data storage devices 1, 2, 3. The transmission direction of the data is symbolized by the dotted arrows.

The process according to the invention concerns in
30 particular data transmissions between the control device 1000 (not shown), the subscriber terminal 20, and the document servers 3000, 4000, 5000, 6000 (see Fig. 1).

Here, the method according to the invention (Steps 2 and 3 in Fig. 2) is described with reference to a first data storage

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1 that is disposed on a document server 3000. The first data storage 1 contains a WWW page as a basic data set.

5 Here, it is also, in principle, possible that the first data storage 1 and the second data storage 2 are physically disposed on one and the same external computer.

In the present example, a first step occurs before these process steps 2 and 3, i.e., a transmission of a data address 13 from an external third data storage 3 to the subscriber terminal 20.

The external third data storage 3 is disposed on the control device 1000 (not shown), which is connected via a data network with the subscriber terminal 20. The subscriber terminal 20 is a PC with its customary peripheral devices. In particular, the subscriber terminal 20 has local storage means, in which data can be stored independent of data on external computers. In principle, the third data storage 3 can be physically disposed along with the first data storage 1 and/or the second data storage 2 on an external computer.

The data address 13 is a name for a data set which makes it uniquely identifiable. In the present example, a URL (uniform resource locator) is used as the data address 13, because, with it, a specific WWW page is precisely specified as a basic data set 11.

In an alternative embodiment of the method, a start timing mark, which is needed in the last process step, is transmitted along with the data address 13.

In the second process step, the subscriber terminal 20 prompts a data transmission of the control data set specified by the data address 13 via the data network 9999 from the second data storage 2 into the local storage of the subscriber terminal 20. The data address 13 of the basic data set 11, which is either contained in the control data set 12 or was already transmitted in the prior first process step, is now used to retrieve the

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basic data set 11 from the first data storage 1. In any case,
there is a unique assignment of the control data set 12 to the
5 basic data set 11. Thus, for example, the subscriber terminal 20
can recognize that the data address 13 of the basic data set 11
belongs to a specific control data set 12.

The control data set 12 contains different control data
and/or information that serve to display the basic data set 11
10 in a predefinable manner via an output means 23, for example, on
a multimedia screen.

Here, the basic data set 11 is an interactive document (WWW
page) provided with hyperlinks, that also has graphic elements,
windows to play MPEG videos and text. However, in principle, it
15 is also possible that the basic data set 11 is a simple text
file.

In a known manner, a user uses an interactive document, such
as a WWW page, by activating various hyperlinks or function areas
in the document using the cursor and triggers a specific function
20 with a keystroke (e.g., request another WWW page, start an MPEG
video).

Within the framework of the method according to the
invention, it is completely possible, but not essential, that the
first data storage 1 for the basic data set 11 and the external
25 third data storage 3 for the data address 13 are stored on the
same computer. In the World Wide Web certain data sets are
temporarily stored in cache storage of various computers. In the
present case, the URL is interpreted as a data address 13 of the
basic data set 11 of the subscriber terminal 20 so that, next,
30 the corresponding basic data set 11 can be transmitted to the
subscriber terminal 20.

In the third process step, the control data set 12 is also
loaded from the second data storage 2 into the local storage of
the subscriber terminal 20. Parallel to that, the basic data set
35 11 is transmitted from the first data storage 1 to the subscriber

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terminal 20. As mentioned above, the basic data set 11 in this case is an interactive WWW document.

5 In an alternative embodiment, it is possible that the control data set 12 is first transmitted to the subscriber terminal 20, and the basic data set 11 is not loaded until after that or vice versa. However, in the present example, the transmission occurs in parallel in the third process step.

10 Since, through the unique identification of the basic data set 11, a control data set 12 is automatically assigned thereto, the transmission of the data set can take place on logically or physically separated lines.

15 The fourth process step serves according to the invention to enable a predefinable automatic reproduction of the basic data set 11, i.e., here, the interactive WWW page, by means of the control data set 12. With an interactive document, that includes the fact that functions of this document are automatically triggered by the control data set 12.

20 The user can observe within the framework of a web tour how, for example, the control data set 12 moves the cursor on a screen or cursor functions are executed. The control data set 12 also has a video data set, which runs, for example, during the automatic cursor movement. The video can, for example, show a
25 person who explains which functions certain fields in the interactive document have or where specific hyperlinks lead. This is explained in detail in Fig. 5.

By means of the control data set 12 and the automatic reproduction (with function executions) of the basic data set 11,
30 it is possible to give automatic guidance (i.e., a web tour) through a complex interactive document which may consist of thousands of connected individual pages. This is explained in detail in Fig. 5.

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5 The control data set 12 has synchronization timing marks that are used to ensure coordinated operation during the automatic reproduction. Thus, for example, the running of an explanatory MPEG video of the control data set 12 is linked to specific cursor actions that can be performed in parallel with the text displayed by the video. Thus, the observer has the impression of being guided with the help of the video through the interactive document of the basic data set 11. This synchronization is performed in the synchronization means 22 and then transmitted to the output means 23.

15 The synchronization timing marks of the control data set 12 are, consequently, of special significance since the control data set 12 combines different output media (e.g., video, cursor movement, and sound), whose reproduction must in each case be coordinated. Thus, it is within the nature of the invention that for a predefinable time interval the user can again use the interactive document himself. With the use of training programs, 20 this can be quite useful.

Through the separation of the basic data set 11 and the control data set 12, it is possible to undertake an automatic reproduction of the basic data set 11 without making any changes whatsoever therein. The data sets may originate from completely 25 different sources as long as it is defined through them that a control data set 12 belongs to a specific basic data set 11, which is then reproduced after transmission to the subscriber terminal 20.

30 In the present case, a hyperlink "automatic guidance through the WWW page" is used to transmit a control data set 12 assigned to the basic data set 11 from the second data storage 2 to the subscriber terminal 20.

35 Alternatively, a synchronization 22, 22' of control data set 11 (control data and/or information) and data of the basic data

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set 11 can occur solely through the clock pulse of an oscillator of the subscriber terminal 20. Modern subscriber terminals 20
5 have such high-performance that interruptions in the data transmission are hardly perceptible to a user of a Web tour.

The reproduction takes place here on an audiovisual screen on which the images, videos with sound, and cursor movements can be displayed and acoustically reproduced. The screen is thus an
10 output means 23 for the reproduction of the data.

It is clear from the above that a device according to the invention has software and/or hardware means with which a coordinated reproduction of basic data sets 11, 11', 11" is enabled via control data 1200, 1201, 1202, 1203 or a control data
15 set 12. For this, the device according to the invention needs transmission means for the basic data sets 11, 11', 11", transmission and processing means for the control data set 12, the control data 1200, 1201, 1202, 1203, 1210, 1220, 1230, the data address 13, and an output means 23 for the reproduction of
20 the basic data sets 11, 11', 11". The synchronization means 22, 22' can also be designed as a software or a hardware solution.

Fig. 2 shows the steps that are necessary to load a basic data set 11 on the subscriber terminal 20 by means of the control data set 12 and to reproduce it in a coordinated manner.

25 However, a web tour usually consists not only of reproduction of one basic data set 11. Rather, it is precisely the advantage that extremely varied basic data sets 11, 11', 11" from different document servers 3000, 4000, 5000, 6000 can be reproduced associated by content on a subscriber terminal 20.

30 Such a web tour is depicted in Fig. 3 as a UML interaction diagram (UML: unified modeling language). Horizontally, various computers are symbolically depicted: the control device 1000, the subscriber terminal 20, and three document servers 3000, 4000, 5000.

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Vertically depicted is the temporal sequence, i.e., the start of the interaction to be depicted between the computers is at the top.

The individual interaction steps are depicted in Fig. 3 as arrows provided with reference characters. Solid-line arrows represent the return of messages; broken-line arrows indicate the transport of messages.

10 At the start of the web tour depicted here by way of example, an inquiry 2100 is directed from the subscriber terminal 20 to the control device 1000. This inquiry 2100 contains the request to activate a control data set 12 stored on the control device 1000, which is to control the web tour. The control data
15 consist here of information concerning basic data sets 11, 11', 11" and from video data as a commentary on the basic data sets 11, 11', 11".

The control data set 12 sends its first control data 1200, which contain the command to get a first basic data set 11 from the first document server 3000. The first control data 1200
20 contain the

URL of the first basic data set 11, such that an appropriate program of the subscriber terminal 20 is capable of loading the first basic data set 11 from the first document server 3000 to
25 the subscriber terminal 20 and reproducing it there.

The request of the first basic data set 11 is depicted as the first interaction 2300 between the subscriber terminal 20 and the first document server 3000. The loading of the first basic data set 11 is depicted as the second interaction 3200.

30 Temporally between the request 2300 and the loading 3200 of the first basic data set 11 is the transmission of a first commentary 1201 from the control device 1000 to the subscriber terminal 20. The first commentary 1202 is, as a video sequence, a component of the control data set 12.

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As soon as the first basic data set 11 and the first commentary 1201 are present on the subscriber terminal 20, the first basic data set 11 is reproduced on the subscriber terminal 20 (see Fig. 2, Step 4; Fig. 5). Under certain conditions, the reproduction may be started when control data and the basic data have not yet been completely transmitted to the subscriber terminal 20. The control data 1201, i.e., the commentary, are thus reproduced along with the basic data set 11.

After the reproduction of the first basic data set 11 has finished or a user has interrupted the reproduction, the next control data of the control data set 12, with which the web tour is continued, are transmitted.

The second control data 1202 contain the information concerning the request of the second basic data set 11' from the third document server 5000. The second interaction between the subscriber terminal 20 and the document servers is thus the request of the second basic data set 11' and the transmission 5200 to the subscriber terminal 20. As before, in the interim, a second commentary 1203 of the control data set 12 is transmitted to the subscriber terminal 20, which is then reproduced along with the second basic data set 11'.

The second control data 1202 contained even more commands, namely those that, after the reproduction of the second basic data set 11', a third basic data set 11" must be gotten from the second document server 4000. The third interaction 2400 depicts the request whereby, next, a transmission 4200 to the subscriber terminal 20 occurs.

This type of data transmission can now be continued until the web tour has ended or the user has interrupted it. In this case, the control data set 12 has a command that a predefined data set 9201 is automatically reproduced on the subscriber terminal 20 (see Fig. 4). This can, for example, be a specific WWW homepage.

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5 In the embodiment of the method according to the invention described here, the control data 1200, 1201, 1202, 1203 are successively transmitted from the control device to the subscriber terminal 20. However, in principle, the control data 1200, 1201, 1202, 1203 may also be transmitted together as a whole to the subscriber terminal 20; i.e., the control data set 12 would be transmitted as a whole. It would then be
10 appropriately executed on the subscriber terminal 20 such that nothing would be changed during the loading of the basic data sets 11, 11', 11".

15 If it would be helpful for the efficiency of the data transmission, the basic data sets 11, 11', 11" known from the control data set 12 could already be loaded on the subscriber terminal 20 as a block before the reproduction or before the loading of the control data set 12 or its control commands 1200, 1201, 1202, 1203. It is also possible to temporarily store the basic data sets 11, 11', 11" on the network 9999 or on another
20 computer.

Fig. 4 depicts the procedure according to Fig. 3 in the form of a UML action diagram, whereby the areas of responsibility of the individual computers can be depicted.

25 The UML action diagram is divided into three vertical regions. The three regions (also called swimming lanes) relate to the control device 1000, the subscriber terminal 20, and the document servers 3000, 4000, 5000, 6000. The solid-line arrows again refer to a control flow; broken-line arrows refer to a data flow. Rounded fields represent an action status, rectangular
30 fields represent a data set. In principle, time flows in the direction of the arrows.

The filled-in circle at the top edge of the center area indicates the start of the program; the lower filled-in circle indicates the end of the program.

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5 The method according to the invention begins with an action 200 on the subscriber terminal 20, where a WWW start page is displayed. This start page has a group of possible web tours that are organized thematically.

10 A user selects a web tour (action 201), whereupon the request action 202 is triggered. The upper horizontal line in Fig. 4 indicates that at this point a parallel control flow begins. The subscriber terminal 20, in fact, waits for data of the control device 1000.

A connection with the control device 1000 is established to load an inquiry 2100 for the necessary information.

15 The control device 1000 is in a wait loop that is interrupted upon receipt 101 of the inquiry 2100. As a reaction to the inquiry 2100, control data 1230 are transmitted to the subscriber terminal. The control data 1230 contain an information flow 1201 (i.e., in this case, multimedia commentary) and a command flow 1200 for the loading of a basic data set 11.

20 The subscriber terminal 20 receives the information flow 1201 and the control flow 1200 separately at the input points 213 and 203, respectively, since the data flows are processed differently.

25 The information flow 1201 is initially paused, which is indicated by the second horizontal line in Fig. 4.

During this pause, the basic data set 11 is loaded on the subscriber terminal 20. For this, a request action 204 is triggered, which leads to the first interaction 2300 with the first document server 3000.

30 This server is in a wait loop 901, which is interrupted as soon as the first interaction 2300 is received 902. In a send action 903, the basic data set 11 is loaded, in the second interaction 3200, on the subscriber terminal 20 and is received 205 there.

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Now, the basic data set 11 and the multimedia commentary 1201 are both present and can be further processed.

5 In a synchronizing action 22' (see, similarly, Step 4 in Fig. 2 as well), the user can now see the basic data set with the multimedia commentaries 1201 of the control data set 12.

If the user interrupts the web tour here 217, or if the web tour for this data set has ended 207, a predefined data set 9201, here a specific homepage, is requested by a return action 208 ("automatic return").

This occurs in a document request 2901, which is again addressed to the first document server 3000. The homepage ("end page") 9201 is sent to the subscriber terminal 20 and received 15 209 and display 210. Thus, the web tour using the method according to the invention is terminated.

However, as described in Fig. 3, but after the reproduction of the first basic data set 11, the reproduction of many more basic data sets 11', 11" may follow. In Fig. 4, this possibility 20 is depicted in that after the synchronization 22', no return to the first start of the parallel control flow occurs. The first control data 1200 contain, in fact, a command as to whether a return occurs in order to subsequently load additional control data 1202, 1203 (see Fig. 3) or whether the control data set 12 25 has ended and the automatic return begins.

Fig. 5 schematically depicts how the method according to the invention and the device according to the invention affects the display of a WWW page 30 on a screen.

30 The WWW page 30 depicted schematically here has various areas in which the various actions can be executed by a user in the interactive mode with a cursor 34', 34".

If the method according to the invention is now applied, it assumes control. The WWW page 30 is transmitted as a basic data set 11 from a first data storage 1 to the local storage of a 35 subscriber terminal 20. A control data set 12 is also transmitted

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from the second data storage 2 to the local storage. After the complete transmission of the data sets, at a time specified by
5 the start timing mark, use of the WWW page 30 is automatically prompted.

Thus, on a monitor surface 31 of the WWW page 30, the image of a video appears, in which the function of the WWW page 30 is explained. Appropriately synchronized at all times with these
10 explanations, as depicted here schematically, cursor movements 34', 34", which are commented on by the video, are executed. Through automatic triggering of cursor functions, an automatic "tour" can thus be realized through the interactive WWW page.

The invention is not limited in its implementation to the
15 preferred exemplary embodiments reported above. Rather, a number of variants that make use of the device according to invention and the method according to the invention, even in fundamentally different embodiments, are conceivable.

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ABSTRACT OF THE DISCLOSURE

The invention relates to a method and device for automatic reproduction of at least one electronic basic data set, whereby a basic data set ascertainable on the basis of a data address is transmitted from a data storage into a local storage of a subscriber terminal. Control data of a control data set assigned to the basic data set is automatically transmitted from a second external data storage to the local storage of the subscriber terminal, whereby the control data contains commands and/or information serving to automatically control reproduction of the basic data set. The basic data set is reproduced on at least one output means of the subscriber terminal during and/or after transmission of the basic data set and the control data to the subscriber terminal, whereby the control data automatically controls reproduction of the basic data set in a predetermined manner.

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Method and Device for

Automatic Reproduction of Electronic Data Sets

Description

The invention relates to a method for automatic reproduction of electronic data sets according to claim 1 and a device for automatic reproduction of electronic data sets according to claim 19.

Data processing, in particular text processing, has been common for many years. The data sets to be processed and displayed (e.g., text, program, multimedia data) have become increasingly complex.

Since the beginning of the 1990s, complex interactive documents have been increasingly processed on computers. A typical example of this is an interactive WWW page that represents a multimedia data set.

The expression "multimedia data set" is understood in this context to mean that image data, text data, video data, hyperlinks and/or data are displayable together or in any combinations in a document on a screen. With the hyperlinks of a WWW page, a user can select other WWW pages. Thus, interactive documents of greater complexity can be created since extremely varied data sets can be linked to each other through the hyperlinks. Such WWW pages are increasingly offered, for example, as order forms for goods and services, such as department stores or banks. A user must enter a large number of data in the fields provided.

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A disadvantage in this is that a user, during a first use of such an interactive document, is frequently not capable of fully utilizing the informational content of the interactive WWW page because of the numerous links or the complex input structures. Or the user fills out an online form incorrectly since he does not know the function of a relevant field. In any case, he has to follow hyperlinks interactively or make entries, whereby he cannot be sure that he is finding the fastest or the best path to the information sought.

The object of the present invention is to provide a method and a device with which at least at times an automatic reproduction of an electronic data set is possible independent of the user.

This object is accomplished by means of the method according to the invention in that a control data set is assigned to a basic data set to be reproduced.

The basic data set can have any form (e.g., WWW page) as long as it can be reproduced on an output device in a manner perceptible to by a user.

The control data set contains control data whose commands and/or information serve to automatically control the reproduction of the basic data set.

The basic data set and the control commands are transmitted independently of each other from external data storages to a local data storage of a subscriber terminal, e.g., a PC, and processed there.

In an advantageous embodiment of the method according to the invention, the control data of the control data set are separated temporally or are transmitted as a unified control data set to the subscriber terminal. In the case of a temporally separate transmission, fewer data have to be transmitted per time unit, which is useful particularly with heavily used data networks. The block transmission of the control data, i.e., of the entire control data set at once, has the advantage that the connection to the external second data storage can be broken after the transmission.

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In a particularly advantageous embodiment of the method according to the invention, the control data and/or the control data set automatically enable the transmission and/or the reproduction of at least one second basic data set during or after the reproduction of a first basic data set. This enables stringing of different basic data sets that can be associated with each other particularly in terms of content (in an application in the World Wide Web: "web tour").

Here, it is advantageous if the control data set has a sequence of control data with which at least two basic data sets can be transmitted, in temporal coordination, to the subscriber terminal and/or reproduced by the subscriber terminal. Thus, even reproductions of complex structures are possible. A second basic data set can even be loaded while a first one is being reproduced.

When a reproduction of a basic data set has ended, it is particularly advantageous if, after the end of the sequence, a predefinable data set is automatically reproduced. The user is thus returned to a specific starting point, where he can, for example, start a new web tour.

In an additional advantageous embodiment of the method according to the invention, the control data set has at least one permanently defined data address for at least one basic data set.

It is advantageous in the event of a momentarily free capacity in a data network if at least one basic data set is transmitted before the transmission of the control data and/or of the control data set to the subscriber terminal.

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If a data network is at times overloaded, it is advantageous if at least one basic data set is temporarily stored in a data network and/or a computer before reproduction on the subscriber terminal.

Advantageously, the external first data storage and/or the external second data storage are disposed on computers that are connected with the subscriber terminal via a data network and/or a data line. Thus, the user of a terminal can use data sets from a large number of independent sources together on his subscriber terminal.

Advantageously, the basic data set has at least one interactive document with hyperlinks and/or input fields. Thus it is, for example, possible that an Internet surfer is guided automatically by his browser on a narrated and automatically guided tour through a complex interactive document.

In another advantageous embodiment of the method according to the invention, the control data set (and with it the control data) has audiovisual data, in particular texts, images, audio data and/or video data. These data of the control data set are automatically reproduced during the reproduction of the basic data set.

It is particularly advantageous if a data set has audiovisual media data, in particular for online narration of basic data sets. Thus, for example, audiovisual explanations may be provided for a user while the control data set automatically controls the reproduction of the basic data set. The basic data set and control data set are simultaneously reproduced in this case.

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Advantageously, in one embodiment of the method according to the invention, at least one start timing mark of the control data set serves to stipulate the beginning of the reproduction of the basic data set and/or of the control data set. It is thus possible, for example, after a complete transmission, to immediately enable a reproduction.

The control data set also advantageously has at least one synchronizing timing mark which is used to synchronize the reproduction of the basic data set on an output device. Thus, complex structures of a basic data set and a control data set can be reproduced in synchronization with each other.

In a particularly simple and efficient manner, synchronization of the reproduction of the basic data set and/or of the control data set is when this takes place via the clock pulse of an oscillator of the subscriber terminal. Modern subscriber terminals, such as PCs or workstations, are so fast that fluctuations in the processing quantity of control data for basic data sets are hardly noticed.

In an advantageous embodiment of the method according to the invention, the control data set has control data for automatic control of a cursor and/or at least one cursor function on a screen of the subscriber terminal during the reproduction of the basic data set and/or of the control data set. Thus, for example, hyperlinks could be selected automatically by the control data set.

In a particularly advantageous embodiment of the method according to the invention, control data have an instruction with which the automatic reproduction of the image data set and/or of the control data set and/or the control of the cursor and/or of the cursor function is interrupted automatically for a predefinable time interval. Thus, a user of the system can, during the time

interval, use the subscriber terminal without control by the control data, for example, with a teaching program to be able to perform his own experiments.

In an advantageous improvement of the method according to the invention, the data address of an external third data storage can be transmitted to the subscriber terminal before the transmission of the basic data set to the subscriber terminal.

A device according to the invention to automatically reproduce at least one electronic basic data set has transmission means to transmit a basic data set and control data of a control data set from an external first data storage or an external second data storage to a subscriber terminal. The function of these data sets has been described above.

Through an output means for automatic reproduction of the basic data set depending on control data, it is possible for the basic data set to be reproduced independently of a user intervention in a predefinable manner.

Advantageously, a first processing means is used such that the control data are transmitted temporally separated or as a unified control data set to the subscriber terminal. Thus, the data transmission can be adapted to the load on the data network.

A particularly advantageous embodiment of the device according to the invention has a second processing means with which it is possible to automatically trigger the transmission and/or the reproduction of at least one second basic data set, during or after the reproduction of a first basic data set based on the control data and/or the control data set. This enables efficiently reproducing a succession of basic data sets.

Here, it is particularly advantageous if a third processing means for the control data set has a sequence of data with which at least two basic data sets can be transmitted to the subscriber terminal in temporal coordination and/or are reproducible therefrom via the output means. Thus, temporally offset reproductions and/or transmissions are possible.

In order to automatically return a user to a specific page after termination of a reproduction, a predefinable data set can be advantageously reproduced automatically after the end of the sequence by means of the third processing means.

In an additional advantageous embodiment, a fourth processing means is used to process a control data set with at least one permanently predefined data address of at least one basic data set.

It is also advantageous if the transmission of at least one basic data set via a third transmission means is possible before the transmission of the control data and/or of the control data set to the subscriber terminal, since free bandwidth is thus usable in a data network.

If a data network lacks bandwidth, it is advantageous if a storage means is used with which at least one basic data set can be temporarily stored in a data network and/or a computer before reproduction on the subscriber terminal.

Advantageously, the local storage of the subscriber terminal is via a connection means with a data network or a data line with the external first data storage and/or the external

second data storage. Thus, a user can access different data sources.

An advantageous embodiment of the device according to the invention has a processing means for a basic data set that has at least one interactive document with hyperlinks and/or input fields. Thus, for example, complex WWW pages and/or input forms can be reproduced automatically with the device according to the invention.

Another advantageous device has a fifth processing means for automatic reproduction of a control data set with audiovisual data, in particular texts, images, audio data and/or video data during the reproduction of the basic data set. Thus, in addition to the basic data set, data of the control data set can also be reproduced.

Here, it is particularly advantageous if a sixth processing means is present for the control data set of the processing of audiovisual media data, in particular for online narration of basic data sets.

An advantageous embodiment of the device according to the invention has a seventh processing means for the evaluation of a start timing mark of the control data set to automatically start the reproduction of the basic data set and/or of the control data set. Thus, the start of the reproduction can be specified in a predefinable manner.

A particularly advantageous embodiment of the device according to the invention has a synchronization means with which the reproduction of the basic data set and/or of the control data set takes place in synchronization by means of at least one synchronizing timing mark

in the control data set in a predefinable manner. Thus, even complex data structures with different media can be reproduced in synchronization with each other.

With the synchronization means it is possible to reproduce the basic data set and the control data set that are loaded independently of each other into the subscriber terminal in a coordinated manner without the basic data set itself having to be altered.

A particularly efficient device results if the synchronization means for reproduction of the basic data set and/or the control data set operates based on the clock pulse of an oscillator of the subscriber terminal. Thus, special timing marks in the data sets are superfluous.

Advantageously, the control data set has an eighth processing means for the control data set and/or the control data for automatic control of a cursor and/or at least one cursor function on the screen of the subscriber terminal during the reproduction of the data sets.

An advantageous implementation of the device according to the invention has a ninth processing means for control data with which is possible to execute an instruction which automatically interrupts the reproduction of the image data set and/or of the control data set and/or the control of the cursor and/or of the cursor function for a predefinable time interval. Thus, a user of the subscriber terminal can work on the subscriber terminal during the time interval without interference from control data.

Additional advantageous embodiments have a fourth transmission means for the transmission of a data address to the subscriber terminal and/or a second transmission means for the transmission of a start timing mark to the subscriber terminal.

The invention is explained in detail in the following with reference to the figures using several exemplary embodiments. They depict:

Fig. 1 a schematic overview of the data transmission paths in the method according to the invention;

Fig. 2 a data flow chart of one embodiment of the method according to the invention;

Fig. 3 a UML interaction diagram (UML: unified modeling language) of a plurality of process steps of the method according to the invention;

Fig. 4 a UML action diagram for the method according to the invention;

Fig. 5 a schematic view of a screen during implementation of the method according to the invention.

Fig. 1 depicts a typical device and network configuration that is used by the method according to the invention.

A user of the method according to invention uses for this a subscriber terminal 20, e.g., a PC or workstation. The subscriber terminal is connected via the Internet 9999 or another data network with a control device 1000 and various document servers 3000, 4000, 5000, 6000. Although, here, the control device 1000 and document servers 3000, 4000, 5000, 6000 are depicted as

separate units, it is also possible to implement the method according to the invention with only one computer connected to the subscriber terminal 20.

Data sets 1210, 1220 are exchanged between the subscriber terminal 20 and the control device 1000 via the Internet 9999, as symbolized by the arrows.

Control data 1210 are used to control specific functions of the subscriber terminal 20. An informational data set 1220 contains audiovisual comments, such as video data, which can be used to narrate a data reproduction on the subscriber terminal 20. Together, the data sets 1210, 1220 form a control data set 12, the function of which is explained in detail in Fig. 2 through 5.

However, data are also exchanged between the subscriber terminal 20 and the document servers 3000, 4000, 5000, 6000. Thus, requests 2310 are sent from the subscriber terminal 20 to the document servers 3000, 4000, 5000, 6000, whereby the requests come from the control data set 12. In response to this request 2310, basic data sets 11 are transmitted from the document servers 3000, 4000, 5000, 6000 to the subscriber terminal. Basic data sets 11 may, in principle, all be data which are reproducible by the subscriber terminal 20.

In the following, the function of the method according to the invention is described largely with reference to a so-called web tour, whereby various WWW pages are reproduced one after another in a predefinable manner on the subscriber terminal 20 as basic data sets 11. The control data of the control data set 12 controls this reproduction.

Fig. 2 depicts schematically an exemplary embodiment of the method according to the invention. Here, the merging of a basic data set 11 with data of a control data set 12 on a subscriber terminal 20 is depicted.

The example depicted here has four process steps of one embodiment of the method according to the invention that are executed one after another.

The bold-outlined rectangles 1, 2, 3 of the first three process steps represent data storage devices. These data storage devices are disposed on the control device 1000 or on the document storage devices 3000, 4000, 5000, 6000.

The parallelograms 12, 13 and the symbol for the basic data set 11 represent data sets that are transmitted between the data storage devices 1, 2, 3. The transmission direction of the data is symbolized by the dotted arrows.

The process according to the invention concerns in particular data transmissions between the control device 1000 (not shown), the subscriber terminal 20, and the document servers 3000, 4000, 5000, 6000 (see Fig. 1).

Here, the method according to the invention (Steps 2 and 3 in Fig. 2) is described with reference to a first data storage 1 that is disposed on a document server 3000. The first data storage 1 contains a WWW page as a basic data set.

Here, it is also, in principle, possible that the first data storage 1 and the second data storage 2 are physically disposed on one and the same external computer.

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In the present example, a first step occurs before these process steps 2 and 3, i.e., a transmission of a data address 13 from an external third data storage 3 to the subscriber terminal 20.

The external third data storage 3 is disposed on the control device 1000 (not shown), which is connected via a data network with the subscriber terminal 20. The subscriber terminal 20 is a PC with its customary peripheral devices. In particular, the subscriber terminal 20 has local storage means, in which data can be stored independent of data on external computers. In principle, the third data storage 3 can be physically disposed along with the first data storage 1 and/or the second data storage 2 on an external computer.

The data address 13 is a name for a data set which makes it uniquely identifiable. In the present example, a URL (uniform resource locator) is used as the data address 13, because, with it, a specific WWW page is precisely specified as a basic data set 11.

In an alternative embodiment of the method, a start timing mark, which is needed in the last process step, is transmitted along with the data address 13.

In the second process step, the subscriber terminal 20 prompts a data transmission of the control data set specified by the data address 13 via the data network 9999 from the second data storage 2 into the local storage of the subscriber terminal 20. The data address 13 of the basic data set 11, which is either contained in the control data set 12 or was already transmitted in the prior first process step, is now used to retrieve the basic data set 11 from the first data storage 1. In any

case, there is a unique assignment of the control data set 12 to the basic data set 11. Thus, for example, the subscriber terminal 20 can recognize that the data address 13 of the basic data set 11 belongs to a specific control data set 12.

The control data set 12 contains different control data and/or information that serve to display the basic data set 11 in a predefinable manner via an output means 23, for example, on a multimedia screen.

Here, the basic data set 11 is an interactive document (WWW page) provided with hyperlinks, that also has graphic elements, windows to play MPEG videos and text. However, in principle, it is also possible that the basic data set 11 is a simple text file.

In a known manner, a user uses an interactive document, such as a WWW page, by activating various hyperlinks or function areas in the document using the cursor and triggers a specific function with a keystroke (e.g., request another WWW page, start an MPEG video).

Within the framework of the method according to the invention, it is completely possible, but not essential, that the first data storage 1 for the basic data set 11 and the external third data storage 3 for the data address 13 are stored on the same computer. In the World Wide Web certain data sets are temporarily stored in cache storage of various computers. In the present case, the URL is interpreted as a data address 13 of the basic data set 11 of the subscriber terminal 20 so that, next, the corresponding basic data set 11 can be transmitted to the subscriber terminal 20.

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In the third process step, the control data set 12 is also loaded from the second data storage 2 into the local storage of the subscriber terminal 20. Parallel to that, the basic data set 11 is transmitted from the first data storage 1 to the subscriber terminal 20. As mentioned above, the basic data set 11 in this case is an interactive WWW document.

In an alternative embodiment, it is possible that the control data set 12 is first transmitted to the subscriber terminal 20, and the basic data set 11 is not loaded until after that or vice versa. However, in the present example, the transmission occurs in parallel in the third process step.

Since, through the unique identification of the basic data set 11, a control data set 12 is automatically assigned thereto, the transmission of the data set can take place on logically or physically separated lines.

The fourth process step serves according to the invention to enable a predefinable automatic reproduction of the basic data set 11, i.e., here, the interactive WWW page, by means of the control data set 12. With an interactive document, that includes the fact that functions of this document are automatically triggered by the control data set 12.

The user can observe within the framework of a web tour how, for example, the control data set 12 moves the cursor on a screen or cursor functions are executed. The control data set 12 also has a video data set, which runs, for example, during the automatic cursor movement. The video can, for example, show a person who explains which functions certain fields in the interactive document have or where specific hyperlinks lead. This is explained in detail in Fig. 5.

By means of the control data set 12 and the automatic reproduction (with function executions) of the basic data set 11, it is possible to give automatic guidance (i.e., a web tour) through a complex interactive document which may consist of thousands of connected individual pages. This is explained in detail in Fig. 5.

The control data set 12 has synchronization timing marks that are used to ensure coordinated operation during the automatic reproduction. Thus, for example, the running of an explanatory MPEG video of the control data set 12 is linked to specific cursor actions that can be performed in parallel with the text displayed by the video. Thus, the observer has the impression of being guided with the help of the video through the interactive document of the basic data set 11. This synchronization is performed in the synchronization means 22 and then transmitted to the output means 23.

The synchronization timing marks of the control data set 12 are, consequently, of special significance since the control data set 12 combines different output media (e.g., video, cursor movement, and sound), whose reproduction must in each case be coordinated. Thus, it is within the nature of the invention that for a predefinable time interval the user can again use the interactive document himself. With the use of training programs, this can be quite useful.

Through the separation of the basic data set 11 and the control data set 12, it is possible to undertake an automatic reproduction of the basic data set 11 without making any changes whatsoever therein. The data sets may originate from completely different sources as long as it is defined through them that a control data set 12 belongs to a specific basic data set 11, which is then reproduced after transmission to the subscriber terminal 20.

Fig. 2 showed the steps that are necessary to load a basic data set 11 on the subscriber terminal 20 by means of the control data set 12 and to reproduce it in a coordinated manner.

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However, a web tour usually consists not only of reproduction of one basic data set 11. Rather, it is precisely the advantage that extremely varied basic data sets 11, 11', 11" from different document servers 3000, 4000, 5000, 6000 can be reproduced associated by content on a subscriber terminal 20.

Such a web tour is depicted in Fig. 3 as a UML interaction diagram (UML: unified modeling language). Horizontally, various computers are symbolically depicted: the control device 1000, the subscriber terminal 20, and three document servers 3000, 4000, 5000.

Vertically depicted is the temporal sequence, i.e., the start of the interaction to be depicted between the computers is at the top.

The individual interaction steps are depicted in Fig. 3 as arrows provided with reference characters. Solid-line arrows represent the return of messages; broken-line arrows indicate the transport of messages.

At the start of the web tour depicted here by way of example, an inquiry 2100 is directed from the subscriber terminal 20 to the control device 1000. This inquiry 2100 contains the request to activate a control data set 12 stored on the control device 1000, which is to control the web tour. The control data consist here of information concerning basic data sets 11, 11', 11" and from video data as a commentary on the basic data sets 11, 11', 11".

The control data set 12 sends its first control data 1200, which contain the command to get a first basic data set 11 from the first document server 3000. The first control data 1200 contain the

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URL of the first basic data set 11, such that an appropriate program of the subscriber terminal 20 is capable of loading the first basic data set 11 from the first document server 3000 to the subscriber terminal 20 and reproducing it there.

The request of the first basic data set 11 is depicted as the first interaction 2300 between the subscriber terminal 20 and the first document server 3000. The loading of the first basic data set 11 is depicted as the second interaction 3200.

Temporally between the request 2300 and the loading 3200 of the first basic data set 11 is the transmission of a first commentary 1201 from the control device 1000 to the subscriber terminal 20. The first commentary 1202 is, as a video sequence, a component of the control data set 12.

As soon as the first basic data set 11 and the first commentary 1201 are present on the subscriber terminal 20, the first basic data set 11 is reproduced on the subscriber terminal 20 (see Fig. 2, Step 4; Fig. 5). Under certain conditions, the reproduction may be started when control data and the basic data have not yet been completely transmitted to the subscriber terminal 20. The control data 1201, i.e., the commentary, are thus reproduced along with the basic data set 11.

After the reproduction of the first basic data set 11 has finished or a user has interrupted the reproduction, the next control data of the control data set 12, with which the web tour is continued, are transmitted.

The second control data 1202 contain the information concerning the request of the second basic data set 11' from the third document server 5000. The second interaction between the subscriber terminal 20 and the document servers is thus the request of the second basic data set 11' and

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the transmission 5200 to the subscriber terminal 20. As before, in the interim, a second commentary 1203 of the control data set 12 is transmitted to the subscriber terminal 20, which is then reproduced along with the second basic data set 11'.

The second control data 1202 contained even more commands, namely those that, after the reproduction of the second basic data set 11', a third basic data set 11" must be gotten from the second document server 4000. The third interaction 2400 depicts the request whereby, next, a transmission 4200 to the subscriber terminal 20 occurs.

This type of data transmission can now be continued until the web tour has ended or the user has interrupted it. In this case, the control data set 12 has a command that a predefined data set 9201 is automatically reproduced on the subscriber terminal 20 (see Fig. 4). This can, for example, be a specific WWW homepage.

In the embodiment of the method according to the invention described here, the control data 1200, 1201, 1202, 1203 are successively transmitted from the control device to the subscriber terminal 20. However, in principle, the control data 1200, 1201, 1202, 1203 may also be transmitted together as a whole to the subscriber terminal 20; i.e., the control data set 12 would be transmitted as a whole. It would then be appropriately executed on the subscriber terminal 20 such that nothing would be changed during the loading of the basic data sets 11, 11', 11".

If it would be helpful for the efficiency of the data transmission, the basic data sets 11, 11', 11" known from the control data set 12 could already be loaded on the subscriber terminal 20 as a block before the reproduction or before the loading of the control data set 12 or its control

commands 1200, 1201, 1202, 1203. It is also possible to temporarily store the basic data sets 11, 11', 11'' on the network 9999 or on another computer.

Fig. 4 depicts the procedure according to Fig. 3 in the form of a UML action diagram, whereby the areas of responsibility of the individual computers can be depicted.

The UML action diagram is divided into three vertical regions. The three regions (also called swimming lanes) relate to the control device 1000, the subscriber terminal 20, and the document servers 3000, 4000, 5000, 6000. The solid-line arrows again refer to a control flow; broken-line arrows refer to a data flow. Rounded fields represent an action status, rectangular fields represent a data set. In principle, time flows in the direction of the arrows.

The filled-in circle at the top edge of the center area indicates the start of the program; the lower filled-in circle indicates the end of the program.

The method according to the invention begins with an action 200 on the subscriber terminal 20, where a WWW start page is displayed. This start page has a group of possible web tours that are organized thematically.

A user selects a web tour (action 201), whereupon the request action 202 is triggered. The upper horizontal line in Fig. 4 indicates that at this point a parallel control flow begins. The subscriber terminal 20, in fact, waits for data of the control device 1000.

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A connection with the control device 1000 is established to load an inquiry 2100 for the necessary information.

The control device 1000 is in a wait loop that is interrupted upon receipt 101 of the inquiry 2100. As a reaction to the inquiry 2100, control data 1230 are transmitted to the subscriber terminal. The control data 1230 contain an information flow 1201 (i.e., in this case, multimedia commentary) and a command flow 1200 for the loading of a basic data set 11.

The subscriber terminal 20 receives the information flow 1201 and the control flow 1200 separately at the input points 213 and 203, respectively, since the data flows are processed differently.

The information flow 1201 is initially paused, which is indicated by the second horizontal line in Fig. 4.

During this pause, the basic data set 11 is loaded on the subscriber terminal 20. For this, a request action 204 is triggered, which leads to the first interaction 2300 with the first document server 3000.

This server is in a wait loop 901, which is interrupted as soon as the first interaction 2300 is received 902. In a send action 903, the basic data set 11 is loaded, in the second interaction 3200, on the subscriber terminal 20 and is received 205 there.

Now, the basic data set 11 and the multimedia commentary 1201 are both present and can be further processed.

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In a synchronizing action 22' (see, similarly, Step 4 in Fig. 2 as well), the user can now see the basic data set with the multimedia commentaries 1201 of the control data set 12.

If the user interrupts the web tour here 217, or if the web tour for this data set has ended 207, a predefined data set 9201, here a specific homepage, is requested by a return action 208 ("automatic return").

This occurs in a document request 2901, which is again addressed to the first document server 3000. The homepage ("end page") 9201 is sent to the subscriber terminal 20 and received 209 and display 210. Thus, the web tour using the method according to the invention is terminated.

However, as described in Fig. 3, but after the reproduction of the first basic data set 11, the reproduction of many more basic data sets 11', 11" may follow. In Fig. 4, this possibility is depicted in that after the synchronization 22', no return to the first start of the parallel control flow occurs. The first control data 1200 contain, in fact, a command as to whether a return occurs in order to subsequently load additional control data 1202, 1203 (see Fig. 3) or whether the control data set 12 has ended and the automatic return begins.

Fig. 5 schematically depicts how the method according to the invention and the device according to the invention affects the display of a WWW page 30 on a screen.

* * * * *

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1. Method for automatic reproduction of at least one electronic basic data set (11, 11', 11''), whereby
 - a) a basic data set (11, 11', 11'') ascertainable on the basis of a data address (13) is transmitted from an external first data storage (1, 3000, 4000, 5000, 6000) into a local storage of a subscriber terminal (20),
 - b) control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) of a control data set (12) assigned to the basic data set (11, 11', 11'') are automatically transmitted from an external second data storage (2, 1000) into the local storage of the subscriber terminal (20), whereby the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) contain commands and/or information with which a reproduction of the basic data set (11, 11', 11'') can be automatically controlled,
 - c) during and/or after transmission of the basic data set (11, 11', 11'') and the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) to the subscriber terminal (20), the basic data set (11, 11', 11'') is reproduced on at least one output means (23) of the subscriber terminal (20), whereby

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d) the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) automatically control the reproduction of the basic data set (11, 11', 11'') in a predefinable manner,

characterized in that

the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) has commands for the automatic control of a cursor and/or at least one cursor function on a screen of the subscriber terminal (20).

2. Method according to claim 1, **characterized in** that the control of a cursor and/or at least one cursor function occurs during the reproduction of the basic data set (11, 11', 11'') and/or of the control data set (12).
3. Method according to claim 1 or 2, **characterized in** that the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) of the control data set (12) are temporally separated or transmitted as a unified control data set (12) to the subscriber terminal (20).

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4. Method according to at least one of the preceding claims, **characterized in** that the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12) automatically prompt, during or after the reproduction of a first basic data set (11, 11', 11"), the transmission and/or the reproduction of at least one second basic data set (11', 11").
5. Method according to at least one of the preceding claims, **characterized in** that the control data set (12) has a sequence of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) with which at least two basic data sets (11, 11', 11") are transmitted in temporal coordination to the subscriber terminal (20) and/or reproduced by the subscriber terminal (20).
6. Method according to claim 5, **characterized in** that after the end of the sequence a predefinable data set (9201) is automatically reproduced.
7. Method according to at least one of the preceding claims, **characterized in** that the control data set (12) has at least one predefined data address (13) for at least one basic data set (11, 11', 11").

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8. Method according to at least one of the preceding claims, **characterized in** that at least one basic data set (11, 11', 11'') is transmitted to the subscriber terminal (20) before the transmission of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data set (12).
9. Method according to at least one of the preceding claims, **characterized in** that at least one basic data set(11, 11', 11'') is temporarily stored in a data network (9999) and/or a computer before the reproduction on the subscriber terminal (20).
10. Method according to at least one of the preceding claims, **characterized in** that the external first data storage (1, 3000, 4000, 5000, 6000) and/or the external second data storage (2, 1000) are disposed on computers that are linked with the subscriber terminal (20) via a data network (9999) and/or a data line.
11. Method according to at least one of the preceding claims, **characterized in** that the basic data set (11, 11', 11'') has at least one interactive document with hyperlinks and/or input fields.

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12. Method according to at least one of the preceding claims, **characterized in** that the control data set (12) has audiovisual data, in particular texts, images, audio data and/or video data, which are automatically reproduced during the reproduction of the basic data set (11, 11', 11").
13. Method according to at least one of the preceding claims, **characterized in** that the control data set (12) has audiovisual media data, in particular for on-line narration concerning basic data sets (11, 11', 11").
14. Method according to at least one of the preceding claims, **characterized in** that at least one start timing mark of the control data set (12) serves to specify the start of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12).
15. Method according to at least one of the preceding claims, **characterized in** that the control data set (12) has at least one synchronizing timing mark, with which the temporal sequence of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) is automatically controlled in a predefinable manner.

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16. Method according to at least one of the preceding claims 1 through 13, **characterized in** that the synchronization (22, 22') of the reproduction of the basic data set (11, 11', 11'') and/or the control data set (12) takes place via the clock pulse of an oscillator of the subscriber terminal (20).
17. Method according to at least one of the preceding claims, **characterized in** that control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) have an instruction with which the automatic reproduction of the image data set (11) and/or of the control data set (12) and/or the control of the cursor and/or of the cursor function is interrupted for a predefinable time interval.
18. Method according to at least one of the preceding claims, **characterized in** that before the transmission of the basic data set (11, 11', 11'') to the subscriber terminal (20), the data address (13) are transmitted from an external third data storage (3) to the subscriber terminal (20).
19. Device for the automatic reproduction of at least one electronic basic data set (11, 11', 11''), with

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a) a first transmission means for the transmission of the basic data set (11, 11', 11'') from an external first data storage (1, 3000, 4000, 5000, 6000) into a local storage of a subscriber terminal (20), whereby the basic data set (11, 11', 11'') is identified by means of a predefinable data address (13),

b) a second transmission means for the automatic transmission of control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) of a control data set (12) assigned to the basic data set (11, 11', 11'') from an external second data storage (2, 1000) of the subscriber terminal (20), whereby the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) include commands and/or information with which the reproduction of the basic data set (11, 11', 11'') is automatically controlled,

c) and output means (23) for the automatic reproduction of the basic data set (11, 11', 11'') depending on the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230),

characterized by

an eighth processing means for the control data set (12) and/or the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) for the automatic control of a cursor and/or at least one cursor function on the screen of the subscriber terminal (20).

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11") is transmitted to the subscriber terminal (20) and/or reproduced thereby via the output means (23).

24. Device according to claim 23, **characterized in** that by means of the third processing means a predefinable data set (9201) is automatically reproduced after the end of the sequence.
25. Device according to at least one of claims 19 through 24, **characterized by** a fourth processing means for a control data set (12) with at least one permanently defined data address (13) of at least one basic data set (11, 11', 11").
26. Device according to at least one of claims 19 through 25, **characterized by** a third transmission means for the transmission of at least one basic data set (11, 11', 11") before the transmission of the control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) and/or the control data (12) to the subscriber terminal (20).

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27. Device according to at least one of claims 19 through 26, **characterized by** a storage means, with which at least one basic data set (11, 11', 11'') is temporarily stored in a data network (9999) and/or a computer before reproduction on the subscriber terminal (20).
28. Device according to at least one of claims 19 through 27, **characterized by** connection means, in particular a data network (9999) or a data line, for connection of the local storage of the subscriber terminal (20) to the external first data storage (1, 3000, 4000, 5000, 6000) and/or the external second data storage (2, 1000).
29. Device according to at least one of claims 19 through 28, **characterized by** a processing means for the basic data set (11, 11', 11''), which has at least one interactive document with hyperlinks and/or input fields.
30. Device according to at least one of claims 19 through 29, **characterized by** a fifth processing means for the automatic reproduction of the control data set (12) with audiovisual data, in particular texts, images, audio data and/or video data during the reproduction of the basic data set (11, 11', 11'').

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31. Device according to at least one of claims 19 through 30, **characterized by** a sixth processing means for the control data set (12) for the processing of audiovisual media data, in particular for the online narration of basic data sets (11, 11', 11").
32. Device according to at least one of claims 19 through 31, **characterized by** a seventh processing means for the evaluation of a start timing mark of the control data set (12) for the automatic start of the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12).
33. Device according to at least one of claims 19 through 32, **characterized by** a synchronization means (22, 22') with which the reproduction of the basic data set (11, 11', 11") and/or of the control data set (12) by means of at least one synchronizing timing mark in the control data set (12) occurs in a predefinable manner in synchronization with each other.
34. Device according to at least one of claims 19 through 33, **characterized by** a synchronization means (22, 22') for the reproduction of the basic data set (11, 11', 11")

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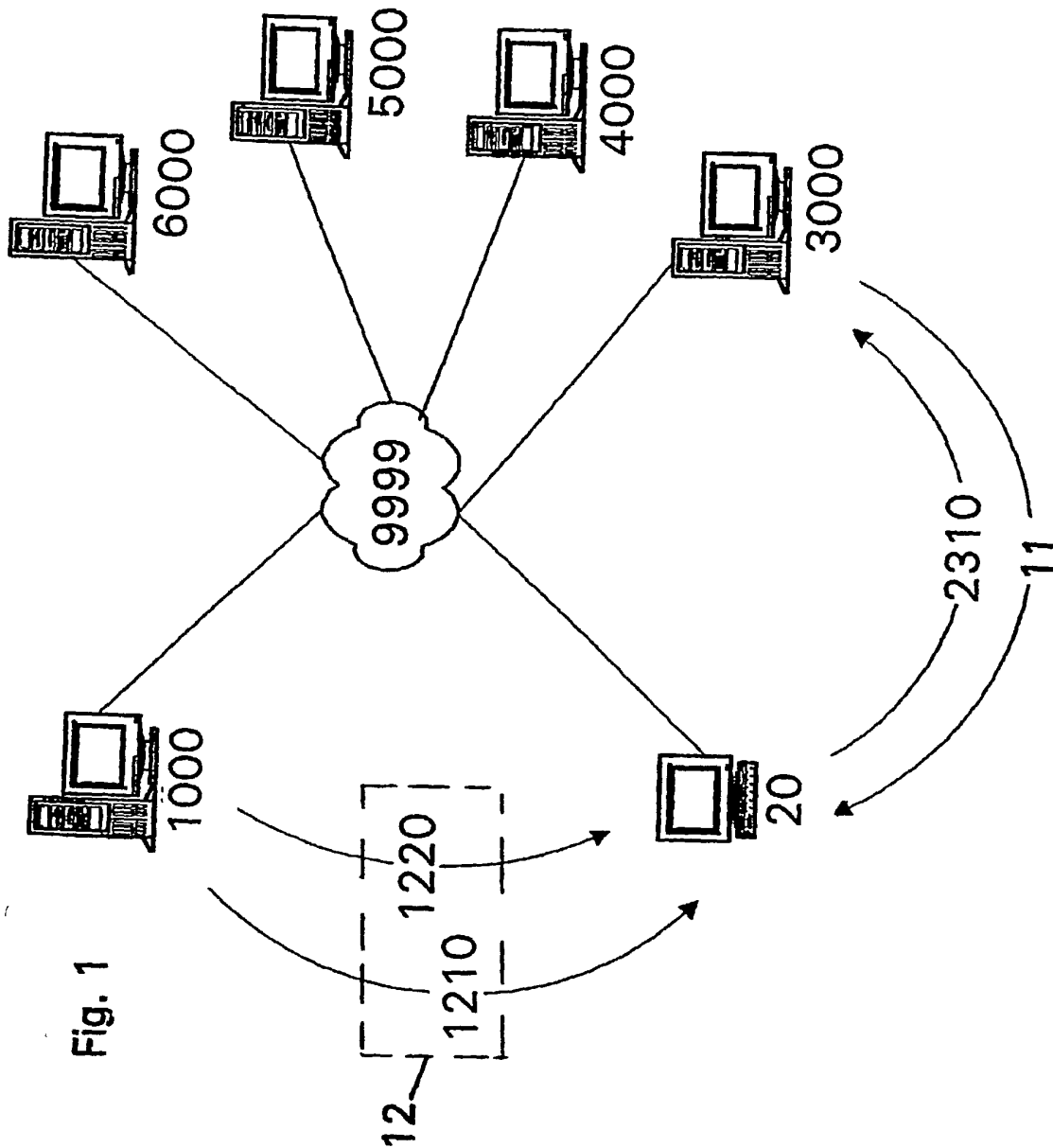
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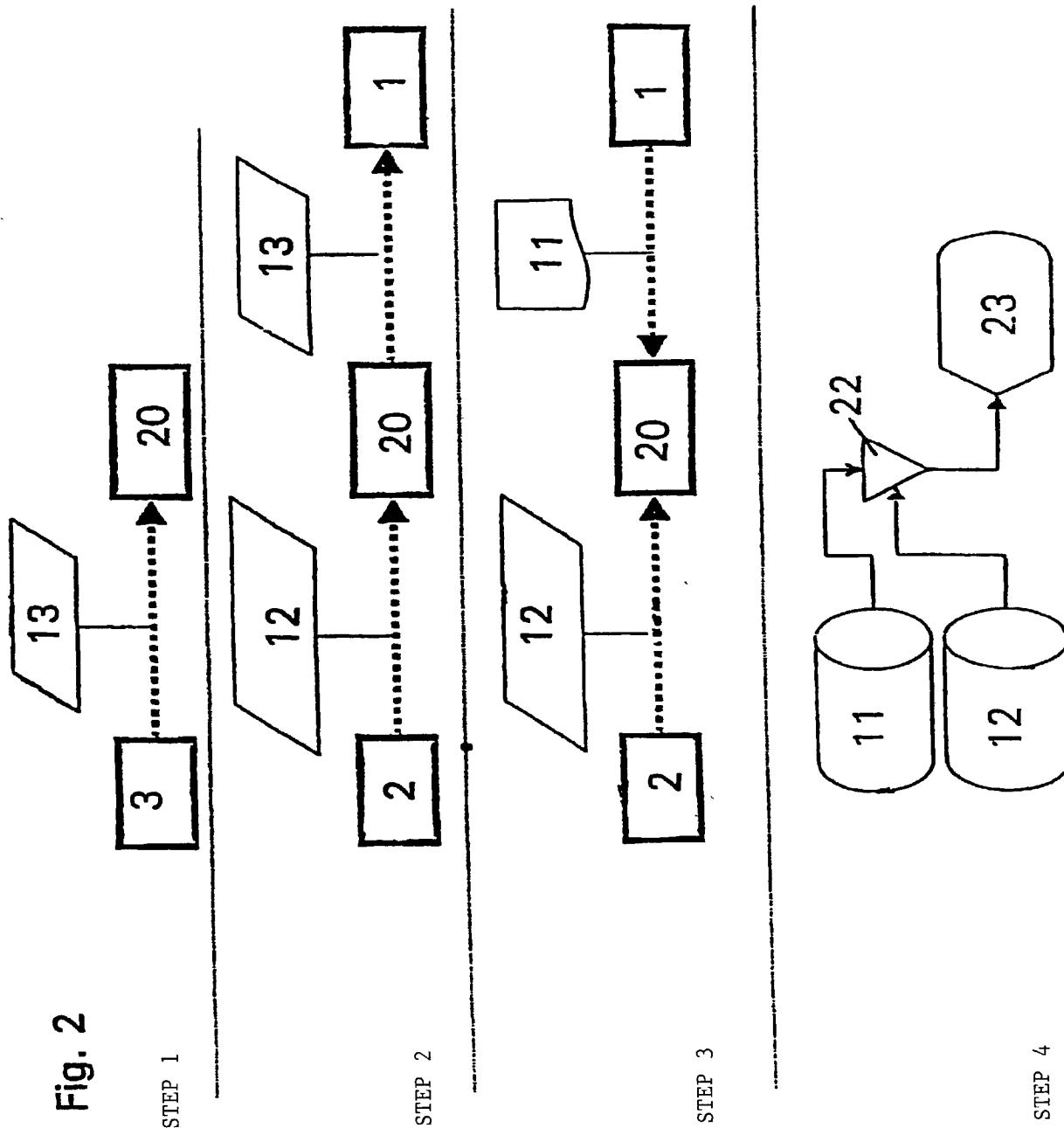
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and/or of the control data set (12) based on the clock pulse of an oscillator of the subscriber terminal (20).

35. Device according to at least one of claims 19 through 34, **characterized by** a ninth processing means for control data (1200, 1201, 1202, 1203, 1210, 1220, 1230) , with which an instruction is executed to automatically interrupt the automatic reproduction of the image data set (11) and/or the control data set (12) and/or the control of cursor and/or the cursor function for a predefinable time interval.
36. Device according to at least one of claims 19 through 35, **characterized by** an eighth transmission means for the transmission of a data address (13) to the subscriber terminal (20).

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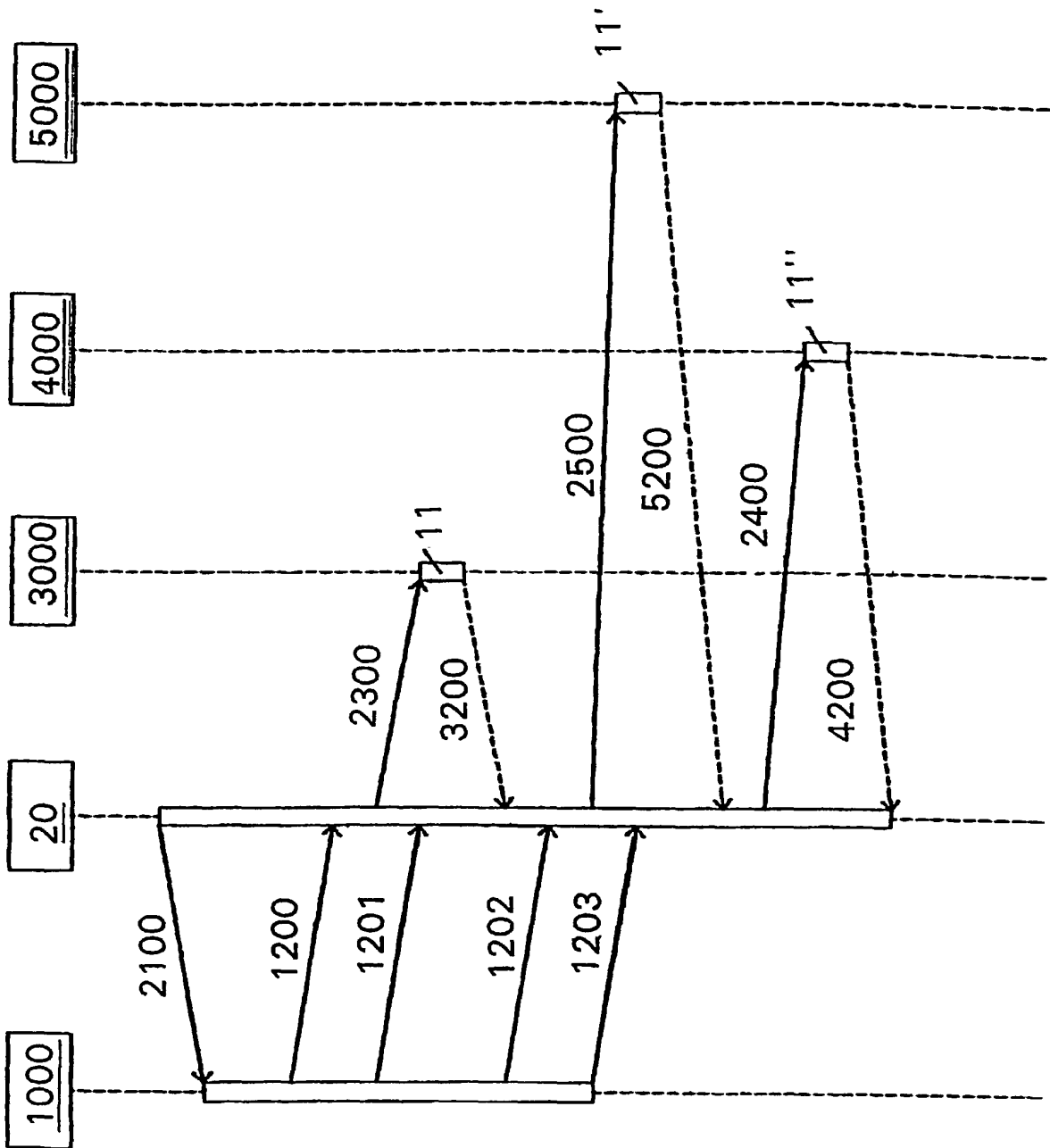


Fig. 3

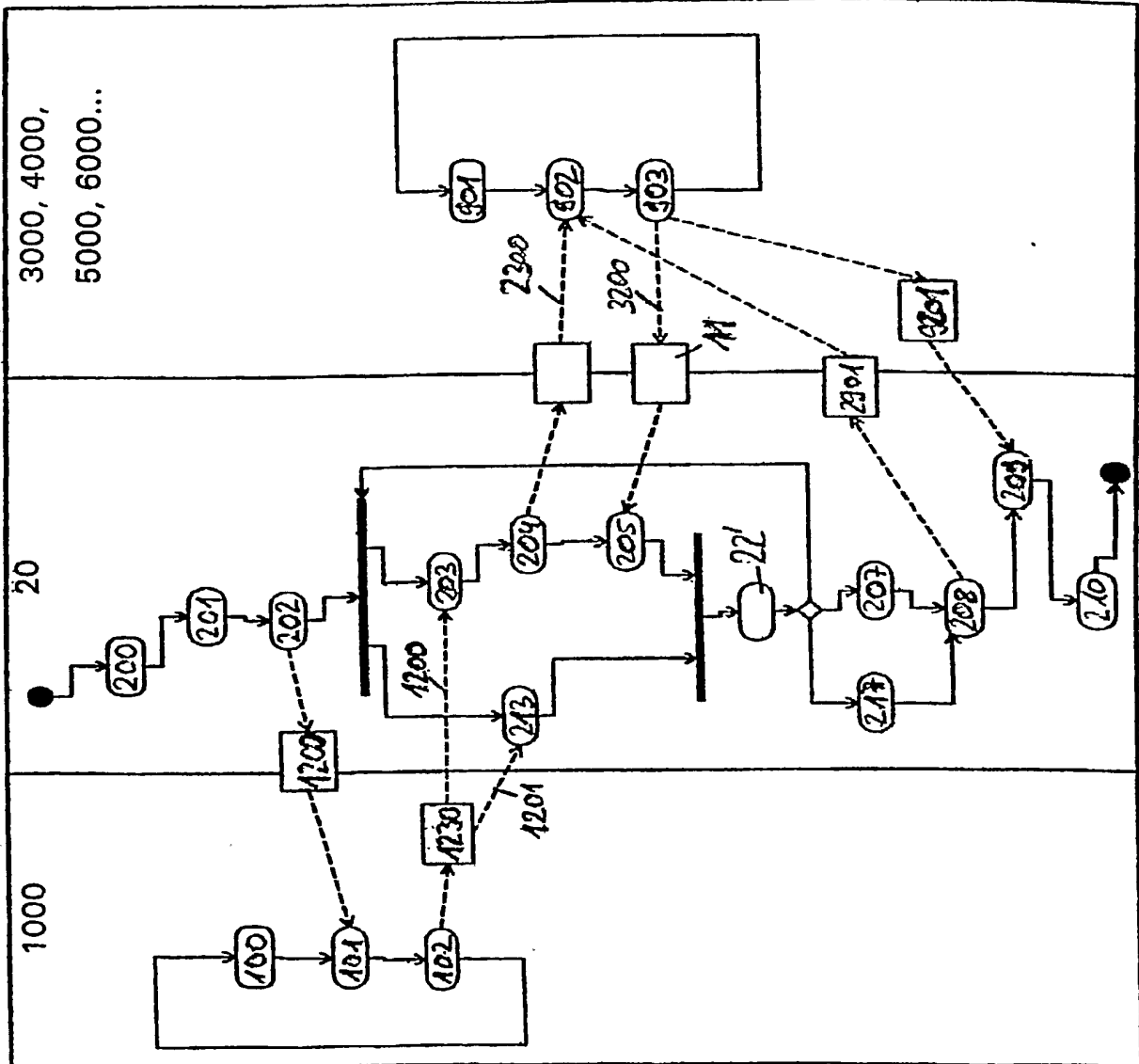
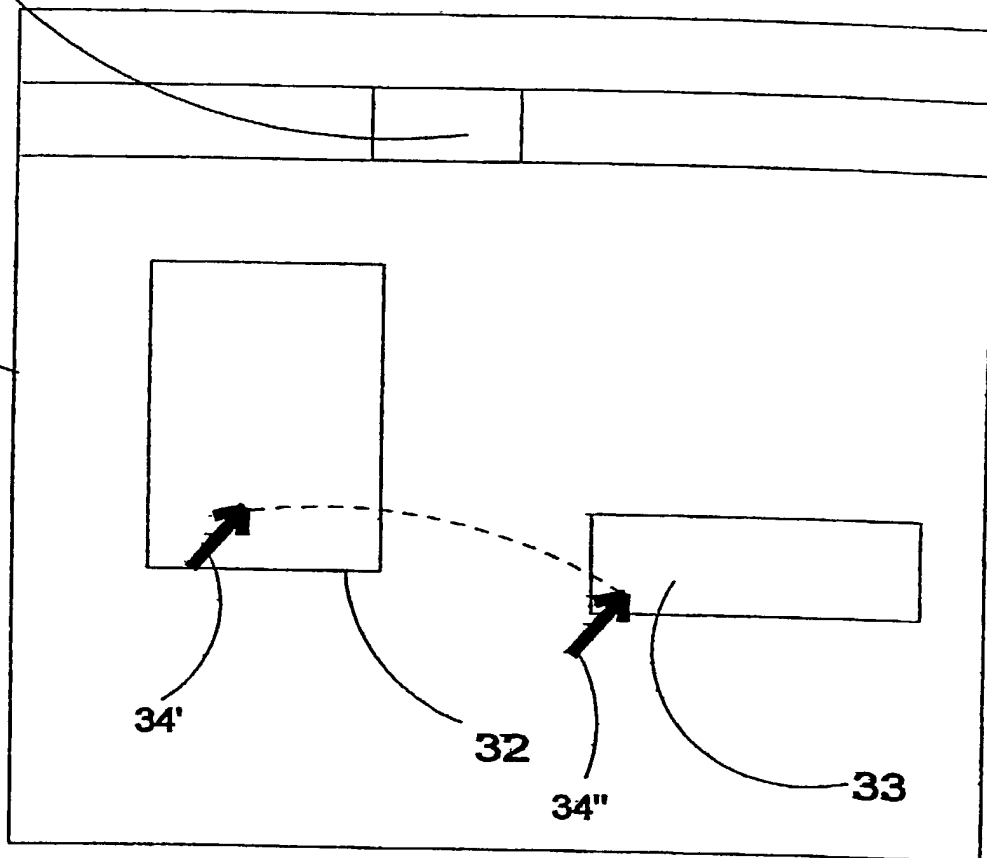


Fig. 4

Fig. 5 31

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UND 101 US2

Rev. 11/00

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION**

PATENT

Docket No.: 47911/DBP/M521

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **VERFAHREN UND VORRICHTUNG ZUR AUTOMATISCHEN WIEDERGABE ELEKTRONISCHER DATENSATZE**, the specification of which is attached hereto unless the following is checked:

☒ was filed on August 30, 2000 as United States Application Number or PCT International Application Number PCT/DE00/03060 and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims; as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of the foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, any foreign application for patent or inventor's certificate, or any PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

<u>Application Number</u>	<u>Country</u>	<u>Filing Date (day/month/year)</u>	<u>Priority Claimed</u>
199 42 647.3	Germany	30 August 1999	YES

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

<u>Application Number</u>	<u>Filing Date</u>
---------------------------	--------------------

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112.

<u>Application Number</u>	<u>Filing Date</u>	<u>Patented/Pending/Abandoned</u>
---------------------------	--------------------	-----------------------------------

POWER OF ATTORNEY: I hereby appoint the following attorneys and agents of the law firm **CHRISTIE, PARKER & HALE, LLP** to prosecute this application and any international application under the Patent Cooperation Treaty based on it and to transact all business in the U.S. Patent and Trademark Office connected with either of them in accordance with instructions from the assignee of the entire interest in this application;

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION**

Docket No. 47911/DBP/M521

or from the first or sole inventor named below in the event the application is not assigned; or from **MAIKOWSKI & NINNEMANN** in the event the power granted herein is for an application filed on behalf of a foreign attorney or agent.

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Customer Number: 23863

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION**

Docket No. 47911/DBP/M521

NAME OF SOLE OR FIRST INVENTOR

Pavel Mayer

Inventor's Signature Pavel Mayer

Date 03/02/2002

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DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION

Docket No. 47911/DBP/M521

NAME OF FIFTH INVENTOR			
<u>Patrick Paulisch</u>			
Inventor's Signature <i>[Signature]</i>			Date 21/02/02
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NAME OF SIXTH INVENTOR			
<u>Alexander Artops</u>			
Inventor's Signature <i>[Signature]</i>			Date 21/02/02
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Docket No. : 47911/DBP/M521

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Applicant or Patentee : Pavel Mayer, et al.

Application or Patent No. :

Filed or Issued :

Entitled :

VERFAHREN UND VORRICHTUNG ZUR AUTOMATISCHEN
WIEDERGABE ELEKTRONISCHER DATENSATZE

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37) CFR 1.9(f) & 1.27(c) - SMALL BUSINESS CONCERN**

I hereby declare that I am

☐ the owner of the small business concern identified below:

☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF SMALL BUSINESS CONCERN : DATANGO AG

ADDRESS OF SMALL BUSINESS CONCERN : Strassburger Strasse 58, 10405 Berlin (DE)

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for the purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention entitled **VERFAHREN UND VORRICHTUNG ZUR AUTOMATISCHEN WIEDERGABE ELEKTRONISCHER DATENSATZE** by inventor(s) Pavel Mayer; Henrik Tramberend; Stefan Dahlke; Steffen Meschkat; Patrick Paulsch; Alexander Artope described in

_____ the specification filed herewith

_____ Application No. _____ filed _____

_____ Patent No. _____ issued _____

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights in the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e). *NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME :

ADDRESS :

PATRICK PAULSCH
BLUNNENSTR. 24, 10119 BERLIN, GERMANY

_____ INDIVIDUAL

☒ SMALL BUSINESS CONCERN

_____ NONPROFIT ORGANIZATION

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37) CFR 1.9(f) & 1.27(c) - SMALL BUSINESS CONCERN

Docket No.: 47911/DBP/M521

NAME

ADDRESS

PATRICK PHILIP, BRUNNEN 24, 10119 BERLIN, GERMANY

☐ INDIVIDUAL



SMALL BUSINESS CONCERN

☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING

TITLE OF PERSON IF OTHER THAN OWNER

ADDRESS OF PERSON SIGNING

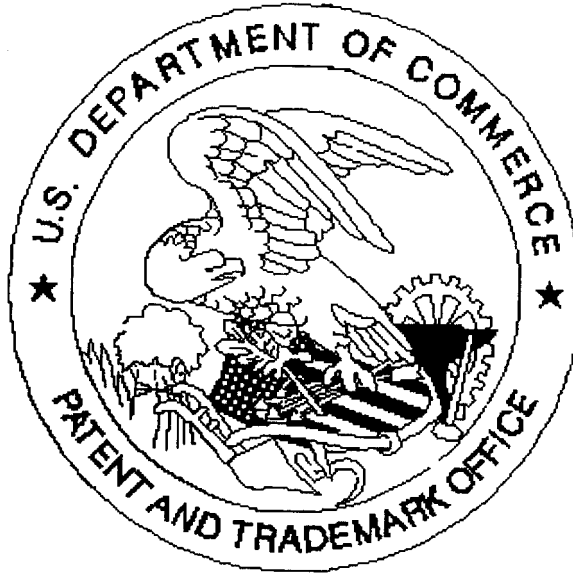
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DATE X *21/02/02*

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